

COOPERATIVE PLANNING AND MANAGEMENT FOR REGIONAL LANDSCAPES

Darryl Low Choy

**Bachelor of Arts (University of Queensland)
Graduate Diploma in Urban and Regional Planning (QIT)
Master of Built Environment (City & Regional Planning) (QUT)**

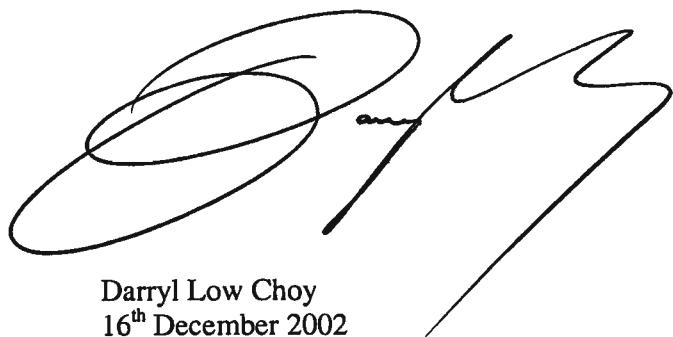
**School of Geography, Planning & Architecture
The University of Queensland**

Submitted in fulfillment of degree of: Doctor of Philosophy

16th December 2002

Statement of Originality

I declare that the work presented in this thesis is, to the best of my knowledge and belief, original and my own work, except as acknowledged in the text, and that the material has not been submitted either in whole or in part, for a degree at this or any other university.

A handwritten signature in black ink, consisting of a large, stylized 'D' followed by 'arryl' and 'Choy' in a cursive script.

Darryl Low Choy
16th December 2002

ABSTRACT

This research study investigated the proposition that regional level landscape protection could be achieved on a river catchment basis through a voluntary cooperative working arrangement of local authorities exercising their statutory planning responsibilities within the traditional planning framework. This approach required local authorities to successfully address a range of contemporary environmental management issues of regional significance that had a strong correlation with selected national State of Environment (SoE) key sustainability and associated 'quality of life' issues.

The study explored three main research themes associated with this proposition that are considered to be critical dimensions of environmental management particularly within the emergent paradigm of sustainable development. The first theme considered the appropriateness of planning as a method of managing contemporary and emergent environmental issues. The second explored the validity of addressing these issues at the regional scale. The final theme considered whether cooperative arrangements involving local government could achieve higher order regional outcomes and thereby eliminate the need for the establishment of a fourth tier of governance with associated institutional and administrative support.

The qualitative research method adopted for the investigation was a longitudinal participatory action research study that utilised a single *intrinsic* case study. The geographic research setting for the intrinsic case study was the Logan-Albert Rivers catchment of South East Queensland (SEQ) and comprised some 3,740 square kilometers.

An enhanced six phase cooperative planning model was utilised as a descriptive and evaluation framework to examine the Logan-Albert experience in terms of the research question. It extends the generic Collaborative Planning Model (CPM) by acknowledging additional phases that involve the preliminary demonstration of the need for a cooperative undertaking to potential participants, and a separate phase to acknowledge the business end of the actual cooperative planning activity. The enhanced CPM also highlights the importance of incorporating an adaptive management approach into the implementation and review phase.

The review of the Logan-Albert case study has confirmed the initiative as a working example of the CPM that involved a range of cooperative and collaborative planning undertakings. The triad organisational structure of a management committee, technical support group and community consultative committee exemplify a joint "bottom up-lateral" regional cooperative planning and management model. It provided horizontal linkages between local authorities and vertical linkages between the community and two levels of government and their respective agencies. It was required to function as a partnership between existing management institutions,

the community and the private sector in order to collectively identify, then address, the regionally significant environmental management issues within a catchment of mutual interest to the partners. Applying this enhanced CPM across a longitudinal study spanning some eleven years allowed for a detailed insight into the changing circumstances and attitudes to cooperative planning by a number of participants, particularly the five local authorities within the catchment. A major advantage of this approach was the utilisation of the existing structures of local government and its management mechanisms such as the statutory planning system.

The experience of the Logan-Albert initiative has established that **contemporary environmental management issues of regional significance can be identified and managed for the common good through the cooperative planning efforts of local authorities based on a natural unit such as a river catchment.** These catchment issues became the prioritised focus of the collaborative planning effort which led to the joint development of policy for coordinated implementation by the participating voluntary group of local authorities. This initiative was directly influential in getting greater focus on the river system and on river related issues particularly in the policies and statutory planning schemes of individual local authorities.

The original CPM was a minimalist approach characterised by ad hoc arrangements supported by limited contributions and commitment from the participating members. Acceptance of the cooperative approach was slow and participants adopted a very cautious series of stepped levels of increased cooperative commitment. At the conclusion of the case study review period (1999), the Logan-Albert initiative had moved up the steps of cooperative effort to the point where it now reflected a higher order of cooperative-collaborative undertaking than at its genesis in 1989. These distinct levels of increased cooperation represent a major departure from the uniform collaboration that is normally assumed with the generic CPM.

The initiative emerged as a formal partnership in the form of a standing sub-committee of SouthROC, one of the official Regional Organisation of Councils in the SEQ region and a partner in the recognized regional planning processes. This legitimised the outcomes of the cooperative planning process and increased their standing and acceptance amongst the agencies and groups who were expected to complete their implementation.

The initiative evolved to a higher order of collaboration through a series of experiments with community engagement that increased the members trust and confidence in bringing the community into a fuller partnership. This was evident in the establishment of a consultative committee from the catchment community that was formed with gradually increased, although modest, empowerment and representation on the central management committee.

This shift can be attributed to a process of adaptive management and learning-by-doing experienced by the core decision-makers of the Logan-Albert initiative. The learning experience allowed members to grow in confidence and understanding, which subsequently allowed them to adapt their corporate positions for the common good. This eventually led to the development of a joint catchment-wide policy framework that was ready for implementation by individual local authorities through their separate statutory planning instruments. In this manner, the local authorities could retain control of the process and therefore maintain their management autonomy. It also meant however, that the joint catchment-wide policy could be implemented in a coordinated fashion throughout all local authority areas in the catchment. The initiative was now placed well in front of the previous minimalist information exchange function that characterised its formative period.

The Logan-Albert initiative has demonstrated that new subnational levels of governance are not required to address contemporary regional scale management challenges. It is clear that voluntary groupings of local authorities can address regionally significant environmental issues. It has also demonstrated that traditional planning can reinvent itself to respond to the array of regional scale challenges typical of those that confronted this catchment group.

This research has identified a clear mandate for traditional planning to embrace change, particularly the emergent paradigm shift noted from the literature, in order to actively contribute to the address of contemporary environmental and landscape management issues of regional significance. The research also demonstrates the benefits of emergent planning processes, in particular, cooperative and collaborative planning. It provides an insight into cooperative planning processes that attempt to engage the community at the scale of a river catchment. This has helped to define the changing role of the professional planner and the implications for profession planning practice, planning education and local government practices.

The outcomes of this work have defined the importance of the regional perspective and focus, especially as an appropriate scale for addressing certain key sustainability issues. Importantly, it has provided a clearer understanding of the political context for cooperative planning and the decision-making processes that operate at local government level in regional collaborative forums.

Within the limitations and recommended enhancements noted, this study has concluded that *a voluntary cooperative coalition of existing local authorities within a river catchment can manage regionally significant environmental issues through their traditional planning frameworks.*

CONTENTS

Statement of Originality	(i)
ABSTRACT	((ii)
Table of Contents	(v)
List of Tables	(x)
List of Figures	(xii)
List of Appendices	(xiv)
Abbreviations & Acronyms	(xv)
Acknowledgments	(xviii)
Preface: A Guide to the Thesis	(xix)
1.0 CHANGING LANDSCAPES - Changing Management Foci	1.1
1.1 INTRODUCTION	1.1
1.2 A CHANGING GLOBAL LANDSCAPE OF ENVIRONMENTAL MANAGEMENT	1.1
1.2.1 Genesis of Cooperative Responses to Environmental Challenges	1.1
1.2.2 Emergent Dimensions to Sustainable Development	1.5
1.2.3 Future Challenges for Integrated Cooperative Subnational Planning	1.9
1.3 A CHANGING NATIONAL LANDSCAPE OF ENVIRONMENTAL MANAGEMENT	1.10
1.3.1 Environmental Challenges and Responses in Australia	1.10
1.3.2 Towards a Domestic Agenda for Cooperative Environmental Management	1.11
1.3.3 Towards a Cooperative Catchment Approach	1.18
1.4 THE FUTURE CONTEXT FOR COOPERATIVE GOVERNANCE AT SUBNATIONAL LEVELS	1.19
1.4.1 Societal Changes in the Global Context	1.19
1.4.2 The Nature of Ongoing Global Change	1.22
1.4.3 Cooperative Planning in the New Millennium	1.26
1.5 DEFINING THE RESEARCH AREA	1.31
1.5.1 Directions for Research	1.31
1.5.2 The Research Question	1.34
2.0 THE CASE STUDY RESEARCH – Methodological Underpinning & Design	2.1
2.1 RESEARCH PARADIGM AND APPROACH	2.2
2.2 THE TEST CASE OPPORTUNITY	2.5
2.2.1 Genesis of the Logan-Albert Case Study Initiative	2.5
2.2.2 The Logan-Albert Catchment	2.6
2.2.3 Establishment of Cooperative Activities	2.6
2.3 THE LOGAN-ALBERT INITIATIVE AS A RESEARCH SETTING	2.9
2.3.1 Theoretical Considerations in Research Site Selection	2.9
2.3.2 The Logan-Albert Research Setting	2.9
2.4 RESEARCH STRATEGIES	2.10
2.4.1 The Case Study Inquiry	2.10
2.4.2 Longitudinal Study	2.15
2.4.3 Grounded Theory	2.16
2.5 ROLE OF THE RESEARCHER	2.19
2.6 RESEARCH METHODS	2.23

2.6.1	Participation	2.24
2.6.2	Observation	2.24
2.6.3	In-depth Interviewing	2.24
2.6.4	Review of Documents	2.25
2.7	TRIANGULATION	2.26
2.8	OTHER METHODOLOGICAL CONSIDERATIONS	2.27
2.8.1	Data Analysis	2.27
2.8.2	Representation and Legitimation	2.28
2.8.3	Literature Review	2.29
2.9	SUMMARY	2.30
3.0	TRADITIONAL RESPONSES TO CHANGING MANAGEMENT REQUIREMENTS - Challenges & Prospects	3.1
3.1	CHALLENGES & PROSPECTS AT THE SUBNATIONAL LEVEL	3.2
3.1.1	The Subnational Level	3.2
3.1.2	The Regional Level	3.3
3.1.3	Environmental Management Challenges at the Regional Level	3.4
3.1.4	Complexity of Regional Landscapes	3.6
3.1.5	The Local Level of Governance	3.8
3.2	OPTIONS FOR REGIONAL ENVIRONMENTAL MANAGEMENT RESPONSES	3.14
3.2.1	Temporary or "One-off" Arrangements	3.15
3.2.2	Permanent Arrangements	3.18
3.2.3	Summary	3.23
3.3	CHALLENGES & PROSPECTS FOR TRADITIONAL PLANNING	3.24
3.3.1	Traditional Planning Approaches	3.24
3.3.2	Traditional Regional Planning Approaches	3.31
3.3.3	Responses from Traditional Planning	3.33
3.3.4	Australian Planning Responses	3.40
3.3.5	Responses from Allied Fields and Disciplines	3.50
3.3.6	An Alternative Planning Region	3.67
4.0	TRADITIONAL COOPERATIVE PLANNING & MANAGEMENT - Challenges & Prospects	4.1
4.1	NATURE OF COOPERATIVE EFFORT	4.2
4.1.1	Cooperative Approach Defined	4.2
4.1.2	Motives for Cooperation	4.9
4.1.3	Forms of Cooperation	4.12
4.1.4	The Cooperative Management Process	4.14
4.2	RESPONSES TO COOPERATIVE PLANNING AND MANAGEMENT THEORY IN PRACTICE	4.17
4.2.1	Achieving the Cooperative Approach	4.17
4.2.2	Cooperative Responses by Commonwealth and State Governments	4.18
4.2.3	Cooperative Approaches at the Regional Level	4.20
5.0	FRONTIERS OF CHANGE – Future Planning Horizons	5.1
5.1	CULTIVATING A RESPONSIVE PLANNING CULTURE	5.1
5.2	PLANNING THROUGH THE SUSTAINABLE DEVELOPMENT DEBATE	5.3
5.3	EMERGENT PLANNING PARADIGMS	5.10
5.3.1	Landscape Planning	5.11
5.3.2	Bioregional Planning	5.19
5.3.3	Environmental Planning	5.26
5.3.4	Collaborative (Integrated) Planning	5.40

	5.3.5	Evolving Planning Paradigms	5.55
5.4		THE NEW REGIONALISM	5.57
	5.4.1	Contemporary & Emergent Views on Regionalism	5.57
	5.4.2	A Regional Planning Resurgence	5.60
	5.4.3	Other Associated Regional Applications	5.64
	5.4.4	Regional Governance	5.66
5.5		EVOLVING REGIONAL LANDSCAPE PLANNING PARADIGMS	5.73
6.0		FRONTIERS OF CHANGE – Converging Paradigms For Landscape Management	6.1
6.1		CONTEXT FOR CHANGE IN LANDSCAPE MANAGEMENT	6.2
6.2		CONVERGENT APPROACHES TO LANDSCAPE MANAGEMENT	6.7
6.3		TOWARDS A PLANNING PARADIGM SHIFT	6.9
	6.3.1	Imperatives for Enhancement	6.10
	6.3.2	The Quantum of Change	6.11
	6.3.3	Substantive Issues	6.13
	6.3.4	Procedural Enhancement	6.14
	6.3.5	The Next Step	6.15
6.4		ECOSYSTEM-BASED MANAGEMENT	6.17
6.5		ADAPTIVE ENVIRONMENTAL MANAGEMENT	6.20
6.6		TOWARDS A COOPERATIVE MANAGEMENT MODEL	6.30
	6.6.1	Factors Promoting or Inhibiting Cooperation	6.33
	6.6.2	Design Principles for Cooperative Arrangements	6.36
	6.6.3	Procedural Principles	6.38
6.7		CONVERGING PARADIGMS OF PRACTICE	6.39
7.0		THE LOGAN-ALBERT CATCHMENT CASE STUDY – Evaluation Setting & Framework	7.1
7.1.1		GENESIS OF COOPERATIVE ACTIVITIES IN THE LOGAN-ALBERT CATCHMENT	7.1
7.2		CONTEXTUAL BACKGROUND	7.3
	7.2.1	The Logan-Albert Catchment Geographical Setting	7.4
	7.2.2	Historical Context - Regional and Catchment Issues at Establishment	7.6
	7.2.3	Historical Context - Planning and Institutional Setting at Establishment	7.8
	7.2.4	Chronological Context of the Case Study	7.12
	7.2.5	The Land Tenure Context for Landscape Management	7.15
7.3		CASE STUDY EVALUATION FRAMEWORK	7.17
8.0		THE LOGAN-ALBERT CATCHMENT CASE STUDY - Evaluation of a Paradigm Shift in Practice	8.1
8.1		DEMONSTRATION OF NEED	8.1
	8.1.1	Events within Logan City Council	8.2
	8.1.2	Events within Logan City	8.4
	8.1.3	Events within the Logan River Catchment	8.6
	8.1.4	Summary	8.11
8.2		FORMATIVE PHASE	8.12
	8.2.1	Stakeholder Analysis	8.13
	8.2.2	Establish the Collaborative Group	8.15
	8.2.3	Appoint a Facilitator	8.21
	8.2.4	Obtain a Commitment	8.22
	8.2.5	Set Agenda	8.23
	8.2.6	Conduct Early Cooperative Exercise	8.24

	8.2.7 Summary	8.27
8.3	GESTATION PHASE	8.27
	8.3.1 Confirm Common Problems and Issues	8.28
	8.3.2 Assess Capacity of Stakeholders	8.31
	8.3.3 Identify and Secure Resources	8.32
	8.3.4 Confirm the Partnership	8.34
	8.3.5 Establish Protocols, Modus Operandi and Ground Rules	8.38
	8.3.6 Summary	8.40
8.4	CONSOLIDATION PHASE	8.41
	8.4.1 Confirm Cooperative Agreement & Agree Terms of Reference	8.42
	8.4.2 Conflict Resolution and Management	8.46
	8.4.3 Organise Subgroups	8.49
	8.4.4 Conduct Joint Fact Finding	8.57
	8.4.5 Consolidate the Future Direction	8.66
	8.4.6 Summary	8.70
8.5	PLANNING 'BUSINESS' PHASE	8.70
	8.5.1 Confirm Goals and Objectives	8.76
	8.5.2 Conduct Joint Fact Finding	8.79
	8.5.3 Explore and Evaluate Options	8.81
	8.5.4 Reach Agreement on Implementation Actions	8.83
	8.5.5 Summary	8.84
8.6	IMPLEMENTATION & REVIEW PHASE	8.86
	8.6.1 Formalise Relationships	8.88
	8.6.2 Monitor and Evaluate	8.91
	8.6.3 Report Back and Review	8.97
	8.6.4 Re-evaluate and Renegotiate	8.98
	8.6.5 Summary	8.98
8.7	CONFIRMING AN EVOLVING COOPERATIVE CULTURE	8.99
	8.7.1 Nature of Cooperation Achieved	8.99
	8.7.2 An Evolving Adaptive Culture	8.100
	8.7.3 The Degree of Cooperation Achieved	8.102
9.0	THE LOGAN-ALBERT CATCHMENT CASE STUDY - Evaluation of the Thesis Propositions	9.1
9.1	EVALUATION OF THE COOPERATIVE REGIONAL PLANNING PARADIGM	9.1
	9.1.1 Evaluation of the Planning Theme	9.1
	9.1.2 Evaluation of the Regional Theme	9.20
	9.1.3 Evaluation of Cooperative Theme	9.25
9.2	EVALUATION OF ASSOCIATED DIMENSIONS TO THE PARADIGM SHIFT	9.41
	9.2.1 Addressing Key Sustainability Issues	9.41
	9.2.2 Influencing Professional Planning Practice	9.45
	9.2.3 Influencing Local Government Practice	9.51
9.3	CONCLUDING EVALUATION	9.56
	9.3.1 Challenges of the Operational Setting	9.56
	9.3.2 Future Challenges to the Thesis Proposition	9.59
	9.3.3 Summary	9.61
10.0	CONCLUSIONS	10.1
10.1	GENERAL OVERVIEW OF THE RESEARCH	10.1
10.2	KEY FINDINGS	10.4
	10.2.1 Overview of Key Findings	10.4
	10.2.2 Validating the Working Definition	10.4
	10.2.3 Confirming the Research Question	10.5
10.3	ASSOCIATED RESEARCH FINDINGS	10.7

10.3.1	Willingness to Share Collective Responsibilities	10.7
10.3.2	Benefits of Collective Achievements	10.7
10.3.3	Institutional Learning and Adaptive Behaviour	10.7
10.3.4	Enhanced Levels of Integrated Management	10.8
10.3.5	The Importance of the Political Context for Cooperative Planning	10.8
10.3.6	The Importance of Political and Professional Champions	10.9
10.3.7	The Importance of Higher Order Guidance and Support	10.9
10.3.8	Opportunities to Explore New Forms of Governance	10.9
10.3.9	Generation of Social Capital	10.9
10.3.10	Contribution to Sustainability Outcomes	10.10
10.3.11	Close Alignment to Emergent Forms of Environmental Planning	10.10
10.4	AN ENHANCED COLLABORATIVE PLANNING MODEL	10.10
10.5	PLANNING PRACTICE	10.12
10.5.1	The Role of The Planner as a Technical Facilitator	10.12
10.5.2	Implication for Future Planning Education	10.13
10.5.3	Implications for the Planning Profession	10.13
10.5.4	Implications for Local Government Practice	10.13
10.6	FURTHER RESEARCH OPPORTUNITIES	10.14
10.6.1	Formal Institutional Cooperatives	10.14
10.6.2	Local Government Elected Officials	10.14
10.6.3	Broad Based Voluntary Partnerships	10.15
10.6.4	Improved Community Engagement	10.15
10.6.5	Future Influence of the Community	10.15
10.6.6	Cooperative Building of Social Capital	10.16
10.6.7	New (virtual) Organisations	10.16
10.6.8	Future IT Developments	10.17
10.6.9	Catchment Size	10.17
10.6.10	Water	10.17
10.7	COOPERATIVE REGIONAL PLANNING PROSPECTS	10.18

BIBLIOGRAPHY

APPENDICES

LIST OF TABLES

		Page
Table 1.1	Characteristics of the Cowboy and Spaceship Cultures	1.21
Table 1.2	Correspondence of Long Waves with Technological and Urban Developments	1.24
Table 1.3	Five Spheres of Historical City Development	1.27
Table 2.1	Research Setting Phases	2.16
Table 2.2	Strengths of Data Collection Methods	2.25
Table 2.3	Weakness of Data Collection Methods	2.26
Table 3.1	Distinction between Resource and Environmental Management Approaches	3.60
Table 3.2	Summary of Rationale for Watershed Approach to Planning	3.68
Table 4.1	A 'Rough' Taxonomy of Cooperative Behaviours	4.6
Table 4.2	Principal Differentiation between Coordination, Collaboration & Cooperation	4.7
Table 4.3	Dimensions & their Alternate Attributes of Interorganisational Networks	4:12
Table 4.4	Schema for Interorganisational Networks	4.13
Table 4.5	Queensland Joint Local Governments (mid 1990s)	4.24
Table 5.1	Evolution of Environmental Planning towards Sustainability	5.28
Table 5.2	Environmental Planning Approaches and their Determinants	5.31
Table 5.3	Attribute of Integrated (Collaborative) Planning Approaches	5.45
Table 5.4	Comparison of Collaborative Planning Models	5.47
Table 5.5	Attributes of Different Collaborative Implementation Approaches	5.53
Table 5.6	Evolving Nature of Environmental Planning in the Sustainable Development Debate	5.56
Table 6.1	Practical Lessons for Ecosystem-based Management	6.19
Table 6.2	Comparison of Substantive Knowledge-oriented Tools and Process Planning-oriented Tools for Ecosystem-based Management	6.19
Table 6.3	Adaptive (Ecological) Systems - Attributes and Correspondence	6.23
Table 6.4	Factors Promoting and Opposing Cooperative Behaviour	6.35
Table 6.5	Design Principles Exhibited by Long-enduring CPR Institutions	6.37
Table 7.1	Nominated Areas of Regional Conservation Significance in the Logan-Albert Catchment	7.7
Table 7.2	Major Milestones relevant to Logan-Albert Case Study	7.15
Table 7.3	Comparison of LARMCC Model against other Collaborative Planning Models	7.18
Table 7.4	Comparison of Logan-Albert Case Study and CPM Phases	7.23
Table 8.1	Distribution of LRCCC Membership by Representational Interest and Local Authority (1993)	8.50
Table 8.2	Distribution of LRCCC Membership by Representational Interest and Local Authority (1994)	8.52
Table 8.3	Distribution of LRCCC Members' Perception of LRCCC Activities relevant to Arnstein's Ladder of Community Participation	8.53
Table 8.4	Options for Establishing a Community Consultative Committee	8.54
Table 8.5	Distribution of LARCCC Membership by Representational Interest and Local Authority (1999)	8.55
Table 8.6	Classes of Implementation Management Models	8.90
Table 9.1	Comparison of Logan-Albert initiative in relation to Third Epoch of Environmental Planning	9.4
Table 9.2	Evidence from Case Study of Evolving Nature of Environmental Planning in the Sustainable Development Debate	9.5
Table 9.3	Logan-Albert Initiative's Attention to Procedural Issues of Paradigm Change	9.11
Table 9.4	Comparison of Logan-Albert Cooperative Planning Initiative with Environmental Planning Approaches	9.14

Table 9.5	Comparison of Logan-Albert Initiative with recent Regional Planning Initiatives	9.22
Table 9.6	Centrifugal and Centripetal Forces Influencing the Logan-Albert Case Study	9.29
Table 9.7	Logan-Albert Examples of Cooperative Behaviour	9.33
Table 9.8	Comparison of the Logan-Albert Experience with the Emergent Roles of the Environmental Planner	9.45
Table 9.9	Alignment of Logan-Albert Outcomes to ALGA Policies	9.51

LIST OF FIGURES

	Page
Figure 1.1a	Global Environmental Management Initiatives (to WCS, 1980) 1.3
Figure 1.1b	Global Environmental Management Initiatives (Since WCS, 1980 to Present) 1.4
Figure 1.2	Australian National Environmental Management Initiatives 1.12
Figure 1.3	Kondratieff's Long Wave Economic Cycles 1.23
Figure 1.4	Conceptual Framework for Research Approach 1.36
Figure 1.5	Schematic Form of the Research Question 1.37
Figure 2.1	South East Queensland Regional Organisation of Councils (Logan and Albert Rivers Study Area) 2.8
Figure 2.2	Basic Types of Case Study Designs 2.12
Figure 2.3	Application of Grounded Theory Strategies to Study 2.19
Figure 3.1	Alternative Arrangements for Regional Environmental Management Responses 3.15
Figure 3.2	Temporary or "One-off" Arrangements for Regional Environmental Management Responses 3.16
Figure 3.3	Permanent Arrangements for Regional Environmental Management Responses 3.20
Figure 3.4	Recent Developments in Resource and Environmental Management and Environmental Planning 3.66
Figure 3.5	Management Responsibilities for Queensland Waterways and their Riparian Zones (late 1990s) 3.74
Figure 3.6	Management Responsibilities for Queensland Coastal Zone (late 1990s) 3.75
Figure 4.1	Behavioural Classification of Interagency Relationships 4.8
Figure 4.2	Scale for Analysing Evolution of Modern Professional Practice 4.15
Figure 5.1	Planner's Triangle of Conflicting Planning Goals 5.6
Figure 5.2	Matrix of Integrated Implementation Approaches 5.44
Figure 5.3	Charter of the New Urbanism (part) - Regional Principles 5.59
Figure 6.1	Evolution of Environmental-Development Paradigms 6.6
Figure 6.2	Converging Paradigms of Landscape Management 6.8
Figure 6.3	Ecosystem Succession Model 6.22
Figure 6.4	An Adaptive Management Framework 6.26
Figure 6.5	Levels of Integrated Cooperative Management Activity 6.32
Figure 6.6	Cooperative Behaviour as a Balance between a Set of Centrifugal and Centripetal Forces 6.34
Figure 7.1	Logan and Albert Rivers Catchment After 7.4
Figure 7.2	Chronological Context (Major Milestones relevant to Logan –Albert Case Study) 7.14
Figure 7.3	Relationship between Land Tenure and State Planning and Management Control 7.16
Figure 7.4	Logan-Albert Cooperative Planning Model (L-A CPM) 7.21
Figure 8.1	Demonstration of Need Phase 8.2
Figure 8.2	Formal Operational Role of Logan River Management Champions 8.3
Figure 8.3	The Local Government "Life Cycle" 8.16
Figure 8.4	Outline Organisation for Logan River Management Coordination (at formation) 8.18
Figure 8.5	Detailed Organisation for Logan & Albert Rivers Management Coordination (1999) 8.19
Figure 8.6	Logo of the Logan-Albert River Cooperative Management Initiative 8.25
Figure 8.7	Annual Budgets for Logan-Albert Initiative (1989/90 to 1998/99) 8.33
Figure 8.8	Relationship of LRMCC to Local Government Institutional Arrangements in SEQ – 1992 8.39

Figure 8.9	Pathways within and between Public Participation and Political Involvement Spheres in Public Policy Making	8.44
Figure 8.10	Principal Elements of the Community Participation Process of the Logan-Albert Cooperative Initiative	8.63
Figure 8.11	Methodology for Incorporating Catchment Management Policies into Strategic Plans of Individual Local Authorities	8.69
Figure 8.12	Organisational Aspects for Cooperative Planning Activities	8.73
Figure 8.13	Process for Developing and Incorporating Catchment Policies into Local Authority Strategic Plans	8.75
Figure 8.14	Delphi Study Process to Identify Priority Concerns of River and Catchment Management Agencies	8.78
Figure 8.15	Web Site Architecture	8.80
Figure 8.16	Process for Cooperative Policy Development	8.82
Figure 8.17	Hierarchical Policy Framework for Logan-Albert Initiative	8.83
Figure 8.18	Alternative Management Models for Implementation	8.90
Figure 8.19	Cyclic (Continuous) Planning Process highlighting Adaptive Management Elements	8.92
Figure 8.20	Integrated Planning - Management Continuum	8.95
Figure 8.21	Cooperative Implementation Model	8.96
Figure 8.22	Shift in LARMCC's Levels of Integrated Cooperative Management Activity (1989 to 1999)	8.103
Figure 9.1	Logan-Albert Initiative's Attention to Substantive Issues of Paradigm Change	9.8
Figure 9.2	Cooperative Planning in a Political Environment	9.59

LIST OF APPENDICES

		Page
Appendix 1.1	Key State of the Environment Issues - Australia	A-1
Appendix 1.2	The Goal, Core Objectives and Guiding Principles of the National Strategy for Ecologically Sustainable Development	A-3
Appendix 2.1	Logan and Albert Rivers Catchment Chronology	A-4
Appendix 3.1	Reflection of Research Themes in Selected Australian Local Government Association Policies	A-5
Appendix 3.2	Evolution of Statutory & Regional Planning – Queensland	A-8
Appendix 3.3	Key Milestones in the Development of Local Agenda 21	A-9
Appendix 7.1	Logan and Albert Rivers Catchment Characteristics	A-10
Appendix 8.1a	Key Issues of Concern to Catchment Management Agencies (Logan River) - 1991	A-20
Appendix 8.1b	Key Issues of Concern to Catchment Management Agencies (Logan & Albert Rivers) - 1997/98	A-21
Appendix 8.2	Logan and Albert Rivers Catchment - Principles of Whole Catchment Management	A-22
Appendix 8.3	Guidelines for the Establishment of the Logan River Community Consultative Committee	A-24
Appendix 8.4	Recommendations Stemming from Survey of 1993-95 Logan River Community Consultative Committee	A-26
Appendix 8.5	Comparison of Public Manager's & Community Key Issues	A-28
Appendix 8.6	Comparative Review of Key Issues with LRMCC Local Authority Strategic Plans - 1992/93	A-29
Appendix 8.7	Comparative Review of Key Issues with LRMCC Local Authority Strategic Plans - 1994	A-30
Appendix 8.8	Comparative Review of Key Issues with LARMCC Local Authority Strategic Plans - 1999	A-31
Appendix 8.9	Information Sources Produced for the Logan-Albert Cooperative Planning Project	A-32
Appendix 8.10	Tables of Contents for Logan-Albert Discussion Papers	A-34
Appendix 9.1	Appropriateness of the L-A CPM for Addressing Key SoE Issues (based on the Logan-Albert experience)	A-36

ABBREVIATIONS and ACRONYMS

ABS	Australian Bureau of Statistics
ACIR	Australian Council for Intergovernmental Relations
ACLEP	Australian Collaborative Land Evaluation Program
AILA	Australian Institute of Landscape Architects
ALGA	Australian Local Government Association
APEC	Asia Pacific Economic Cooperation
ASEAN	Association of South-East Asian Nations
ASC	Albert Shire Council
ASoEC	Australian State of the Environment Committee
AURDR	Australian Urban and Regional Development Review
AWRC	Australian Water Resources Council
<i>A&LN</i>	<i>Albert and Logan News</i>
BCC	Brisbane City Council
BDAC	Biological Diversity Advisory Committee (Australia)
BDSC	Beaudesert Shire Council
BMP	Best management practices
BSC	Boonah Shire Council
CCC	Catchment Coordinating Committee
CCG	Catchment Care Group
CIA	Cumulative impact assessment
CIS	common information set
CoA	Commonwealth of Australia
COAG	Council of Australian Governments
COG	Coordinator-Generals Department (Queensland)
CPM	Collaborative planning model
CPR	Common pool resources
CSD	Commission on Sustainable Development (UN)
DAHE	Department of Arts, Heritage and Environment (Australia)
DCP	Development Control Plan
DCILGP	Department of Communication and Information, Local Government and Planning (Queensland)
DEP NSW	Department of Environment and Planning (NSW)
DFC	Desired future condition
DLG	Department of Local Government (Queensland)
DNR	Department of Natural Resources (Queensland)
DNRM	Department of Natural Resources and Mines (Queensland)
DoT	Department of Transport (Queensland)
DPI	Department of Primary Industries (Queensland)
EA	Environmental audit
EARC	Electoral and Administrative Review Commission (Queensland)
EDO	Environmental Defenders Office (Qld) Inc
EIA	Environmental Impact Assessment
EIA	Environmental Institute of Australia
EMI	environmental management issue
EMP	Environmental Management Plan
EPA	Environmental Protection Agency (Queensland)
ESA	Environmentally Sensitive Area
ESD	Ecological Sustainable Development
EU	European Union
FNQ	Far North Queensland
GCCC	Gold Coast City Council
GCWA	Gold Coast Waterways Authority
GDLA	Graduate Diploma in Landscape Architecture (QUT)
GIS	Geographic Information System

GOC	Government Owned Corporation
GTA	Greater Toronto Area
ICLEI	International Council for Local Environmental Initiatives
ICM	Integrated Catchment Management
ICT	Information and communication technologies
IDAS	Integrated Development Approvals Scheme (Queensland)
IEA	Institute of Engineers Australia
IEM	Integrated Environmental Management
IEMTF	Interagency Ecosystem Management Task Force (USA)
IGAE	Intergovernmental Agreement on the Environment (Australia)
IGC	Institute for Global Communications
ILAP	Integrated Local Area Planning (Australia)
IMF	International Monetary Fund
IOC	Interorganisational coordination
IPA	<i>Integrated Planning Act 1997</i> as amended (Queensland)
IREM	Integrated Resource Environmental Management
IUCN	International Union for Conservation of Nature and Natural Resources
IULA	International Union of Local Authorities
LAC	limits to acceptable change
L-A CPM	Logan-Albert cooperative planning model
LARCCC	Logan and Albert Rivers Community Consultative Committee
LARCTN	Logan and Albert Rivers Catchment Teachers Network
LARMCC	Logan and Albert Rivers Management Coordinating Committee
LARTSG	Logan and Albert Rivers Technical Support Group
LA21	Local Agenda 21
LCC	Logan City Council
LEP	Local Environmental Plan (NSW)
LGA	<i>Local Government Act 1993</i> as amended (Queensland)
LGAAQ	Local Government Association Queensland
MAI	Multilateral Agreement on Investment
MBWCP	Moreton Bay Waterways and Catchment Partnership
MDBC	Murray-Darling Basin Commission (Australia)
MCP	Model Communities Program (ICLEI)
MFP	Multifunction Polis
NAFTA	North America Free Trade Agreement
NAP	National Action Plan for Salinity and Water Quality
NATO	North Atlantic Treaty Organisation
NCSA	National Conservation Strategy for Australia
NEPA	<i>National Environmental Policy Act 1969</i> (USA)
NGO	Non government organisation
NHT	National Heritage Trust (Australia)
NLP	National Landcare Program (Australia)
NLWRA	National Land and Water Resources Audit
NPWS	National Parks and Wildlife Service (Queensland)
NQAA	North Queensland Afforestation Association Inc
NQAPJB	Northern Queensland Afforestation Program Joint Board
NSESD	National Strategy for Ecological Sustainable Development (Australia)
OECD	Organisation for Economic Cooperation and Development
OLG	Office of Local Government (Australia)
PIA	Planning Institute of Australia (formerly RAPI)
QUANGO	Quasi-Autonomous Non Government Organisations (also QANGO)
QDEH	Queensland Department of Environment & Heritage
QDLG&P	Queensland Department of Local Government & Planning
QFMA	Queensland Fisheries Management Authority
QGG	Queensland Government Gazette
QIT	Queensland Institute of Technology (now QUT)

QRC	Queensland Recreation Council
QUT	Queensland University of Technology
RAC	Resource Assessment Commission (Australia)
RAPI	Royal Australian Planning Institute (now PIA)
RCC	Regional Coordination Committee (Queensland) - contemporary
RCC	Regional Coordination Councils (national) - 1970s vintage
RDO	Regional Development Organisation
REP	Regional Environmental Plan (NSW)
RFGM	Regional Framework for Growth Management (Queensland)
RLSAC	Regional Landscape Strategy Advisory Committee (Queensland)
RMA	<i>Resource Management Act 1991</i> as amended (New Zealand)
ROCs	Regional Organisation of Councils
RPAC	Regional Planing Advisory Committee (Queensland)
RPAG	Regional Planning Advisory Group (Queensland)
RPG	Regional Planning Guidance (UK)
RSC	Redland Shire Council
RTO	Regional Tourist Association
SCEP	Study of Critical Environmental Problems
SEA	Strategic Environmental Assessment
SEQ	South East Queensland
SEQROC	South East Queensland Regional Organisation of Councils
SEQRWQMS	South East Queensland Regional Water Quality Management Strategy
SMIC	Study of Man's Impact on Climate
SoEAC	State of the Environment Advisory Committee
SoE	State of the Environment
SoER	State of the Environment Report
SouthROC	Southern Sub-Regional Organisation of Councils (formerly SROC)
SPP	State Planning Policy
SRQ	Sports and Recreation Queensland
SWOT	Strengths, Weaknesses, Opportunities and Threats
TBL	triple bottom line
TCM	Total Catchment Management
TNC	Transnational corporation
TOR	Terms of Reference
TPI	Town Planning Institute (UK)
UK	United Kingdom
UN	United Nations
UNCED	United Nations Centre for Environment and Development
UNCHS	United Nations Centre for Human Settlement
UNCSD	United Nations Commission on Sustainable Development
UNSD	United Nations Division for Sustainable Development
UNEP	United Nations Environment Program
USA	United States of America
USDA	United States Department of Agriculture
VROCs	Voluntary Regional Organisation of Councils
WCED	World Commission on Environment and Development
WCM	whole catchment management
WCMP	whole catchment management principles
WCS	World Conservation Strategy
WESROC	Western Sub-Regional Organisation of Councils
WRC	Water Resources Commission (Queensland)
WRI	World Resources Institute
WTO	World Trade Organisation
WWF	World Wildlife Fund

ACKNOWLEDGEMENTS

I owe a debt of gratitude to many people for their support of my doctoral thesis.

Firstly I wish to acknowledge my supervisor Professor Geoff McDonald. He has been a constant source of encouragement and academic guidance. I thank him for his patience and for his positive input into my doctoral thesis. I also acknowledge the positive input of Professor Lex Brown who read an early draft of my thesis and provided useful comment on the thesis structure.

Undertaking doctoral studies in part time mode is a challenge. I am indebted to my academic, technical and administrative colleagues from the School of Environmental Planning and the Faculty of Environmental Sciences at Griffith University for their untiring support during this time. I am also grateful to the Griffith University hierarchy for their patience and confidence in my abilities to complete this thesis.

My participatory action research program relied heavily on support for within the Logan-Albert catchment case study. This came essentially from the many elected members and planning staff of the participating local authorities of Beaudesert Shire Council, Boonah Shire Council, Redland Shire Council, Gold Coast City Council and Logan City Council. I would like to single out Ray Shaw, the former Chief City Planner for Logan City Council, who provided visionary encouragement and important connections at the genesis and formative phases of the case study review period. I would also like to place on record my gratitude to members of the Logan and Albert Rivers Management Coordinating Committee for their cooperation, support and commitment to participate in this journey of discovery and learning. I and the Logan and Albert Rivers Management Coordinating Committee have been ably supported by the Logan and Albert Rivers Technical Support Group and the two Logan and Albert Rivers Community Consultative Committees during this time.

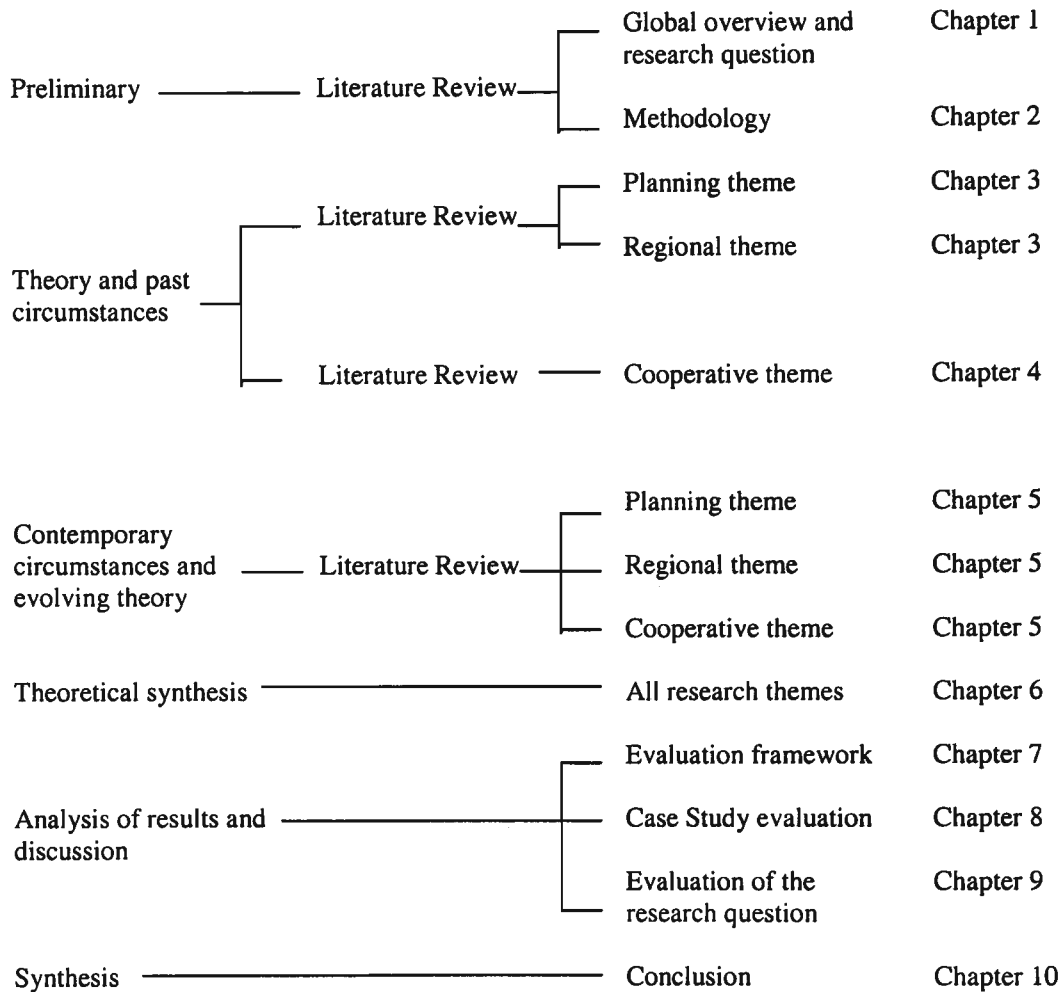
I have also had excellent support from a number of planning assistants in the provision of the research and planning and technical advise to the Logan-Albert initiative. In particular I wish to acknowledge the solid and dedicated commitments made by Robyn Davies and Jeanie McKillop.

Finally I wish to place on record my deep appreciation and gratitude to my most supportive wife Nancy and my daughters Jacqueline and Amanda. Without their love, encouragement and support none of this would have been possible. I am eternally indebted to them for their affection and support which is wholeheartedly reciprocated.

PREFACE: GUIDE TO THE THESIS

The principal research question was comprised of three main themes, namely, regional scale activity, planning method and cooperative organisation. These three research themes had a strong influence on the structure of the thesis.

A “road map” to the main sections of this thesis is provided below:



The preliminary section of the thesis begins with a broad ranging review of the global dimensions of the sustainable development debate and the issues of management for landscape change. It provides an overarching context for the thesis and sets the scene for posing the research question (Chapter 1). This is followed by a discussion of the theoretical underpinning and design for the research required to address the research question and to support this thesis (Chapter 2).

The second section examines the traditional challenges and responses to the acknowledged changing requirements for planning and management and provides a detail discussion of the theoretical basis for that response (Chapter 3 for the planning and regional scale themes and Chapter 4 for the Cooperative theme).

The third section addresses the contemporary and emerging issues in terms of future planning horizons and emergent theory related to the three research themes (Chapter 5). This is followed by a synthesis of the literature in terms of converging paradigms for landscape management. It involved the identification of evaluation criteria for the subsequent analysis and evaluation of the case study (Chapter 6).

The next section commences with the establishment of an evaluation framework and setting for analysing the case study (Chapter 7). The specific chronological experiences of the case study are then documented, analysed and discussed (Chapter 8). The third chapter of this section evaluates the thesis proposition in terms of the observed, noted and distilled results from the case study (Chapter 9).

The concluding section draws together the key findings of the research and summarises the principal associate findings of the study. It also identifies some pertinent implications for future planning practice and provides guidance for future research opportunities in areas associated with the original research question (Chapter 10).

1.0 CHANGING LANDSCAPES - Changing Management Foci

1.1 INTRODUCTION

This thesis examines the process of planning for landscape protection at the regional level in Australia, with a focus on the environmental dimensions of landscape protection, particularly those associated with "quality of life" issues. While the research approach is that of the detailed analysis of a case study, consideration of the issues at the regional scale have foundations and precursors at both global and national scales, and it is critical to have a clear understanding of these issues, and particularly the history of responses at these broader scales, before focussing in on the regional scale that is the locus of this thesis.

This first chapter scans the vast fields of initiatives and responses in the changing landscape of environmental management at both global and national levels. It organises the material around three key themes. The first recognises the fundamental need in environmental management to plan for the future rather than react to current environmental problems the *planning* theme. The second arises from a growing recognition that there are geographical scales at which different forms of environmental management are effective - and it will be shown that the *sub-national* scale is one of particular relevance. The third theme concerns the organisational approach required to effectively manage environmental issues the theme of *cooperative planning and action*.

This review shows by the weight of the evidence from the material reviewed, that these three themes are critical dimensions of environmental management, particularly within the emergent paradigm of sustainable development. The balance of this chapter examines the historical development of global and national concerns and responses in environmental management in terms to these themes. It does this against the background of the evolution of the sustainable development concept that paralleled the case study timeline under consideration in this study. The theoretical nature of these research themes and their sustainable development context are developed in Chapters 5 and 6. This initial chapter concludes with the articulation of the principal research themes and poses the research question for the study.

1.2 A CHANGING GLOBAL LANDSCAPE OF ENVIRONMENTAL MANAGEMENT

1.2.1 Genesis of Cooperative Responses to Environmental Challenges

During the global transformations of the past fifty years, national development programs of both developed and developing societies, sought to achieve expanded industrial economies and

higher standards of living aimed to improve quality of life for their citizens. This continued and expanded industrialisation resulted in high environmental costs. Ward and Dubos (1972: 24), in their seminal 1972 work *Only One Earth*, a principle input to the 1972 UN Conference on the Human Environment, noted that "... there is no doubt indeed that most of our present environmental difficulties originate from man's ecological misbehaviour". These conclusions were consistent with those in many other publications of that time, including: Carson (1962); SCEP (1970); SMIC (1971); Institute of Ecology (1972); Meddows et al, (1972); *The Ecologist* (1972); Mesarovic & Pestel (1975); Laszlo et al (1977).

One of the earliest international attempts to gain a collaborative agreement for action to address the deteriorating global environmental situation was the 1972 UN Conference on the Human Environment. Ward and Dubos argued that the fundamental task of the conference was "to formulate the problems inherent in the limitations of the spaceship earth, and to devise patterns of collective behaviour compatible with the continued flowering of civilisations" (Ward and Dubos, 1972: 31). Clearly they were advocating cooperative management actions at the international level between global stakeholders. Other noted works of that time made similar recommendations (SCEP, 1970; SMIC, 1971; Mesarovic & Pestel, 1975). Interestingly they all basically acknowledged the virtual impossibility of establishing new frameworks, structures or organisations to take responsibility for achieving the desired policy outcomes. They agreed that this was best achieved through existing (national) structures, mostly through the addition or modification to existing programs, but with the need for coordination across the individual agencies.

A principle outcome of the 1972 UN conference was the "*Declaration on the Human Environment*". Two of the Declaration's 23 principles advocated a cooperative and a coordinated approach at global and national scales to the Earth's problems and challenges of that time (Friends of the Earth, 1972). Whilst there were examples of cooperative attempts dating back to the 1870's (eg protection of migratory bird species), the 1972 Habitat conference marked the international arrival of these initiatives (French, 1995). The Declaration also contained a particularly strong call for the adoption of a planning approach. Specifically, it argued that "rational planning constitutes an essential tool for reconciling any conflict between the needs of development and the need to protect and enhance the environment ... (*and that*) planning must be applied to human settlements and urbanisation with a view to avoiding adverse effects on the environment and obtaining maximum social, economic, and environmental benefits" (Friends of the Earth, 1972: 171/172).

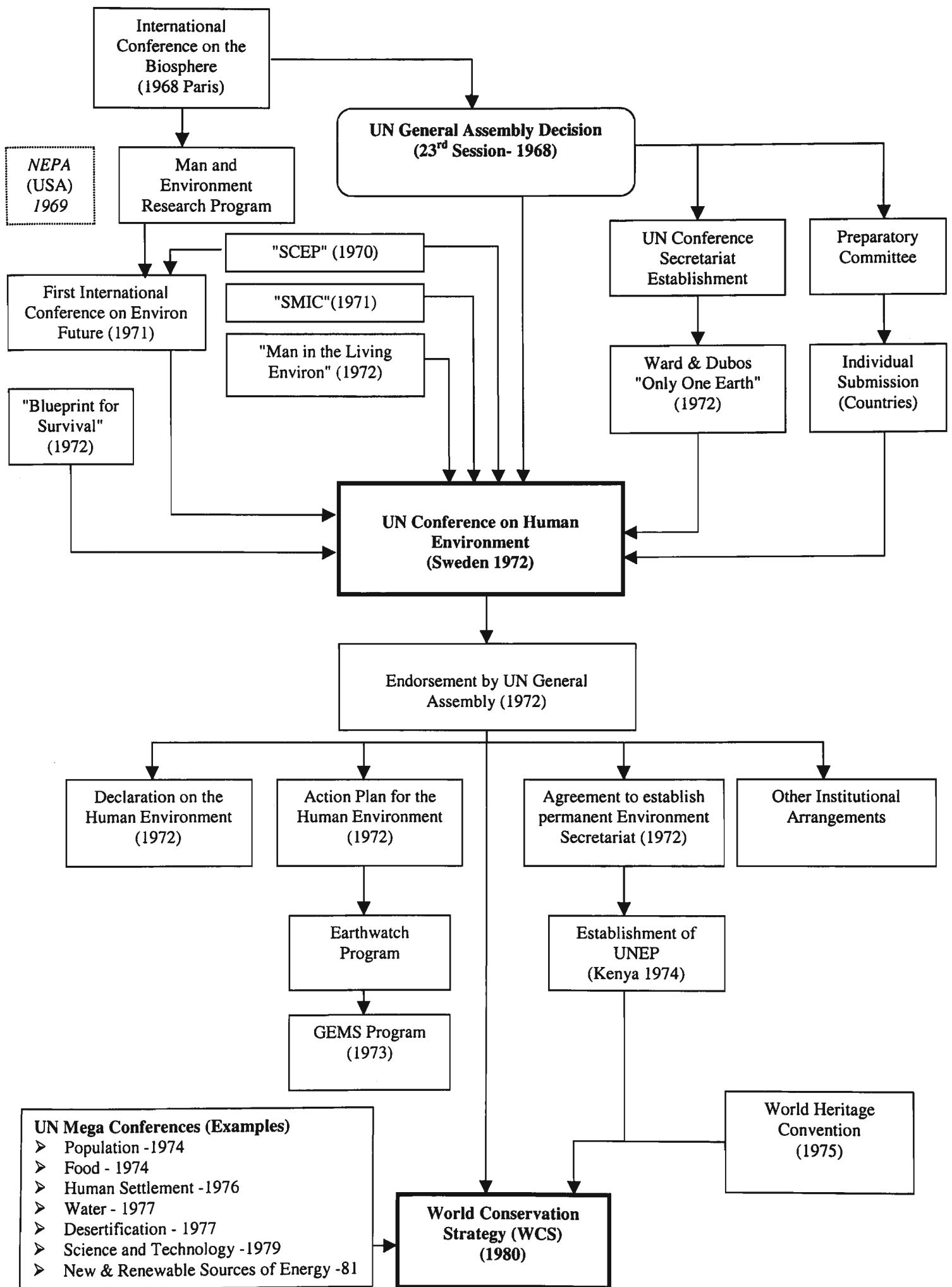


Figure 1.1a: Global Environmental Management Initiatives (to WCS, 1980)

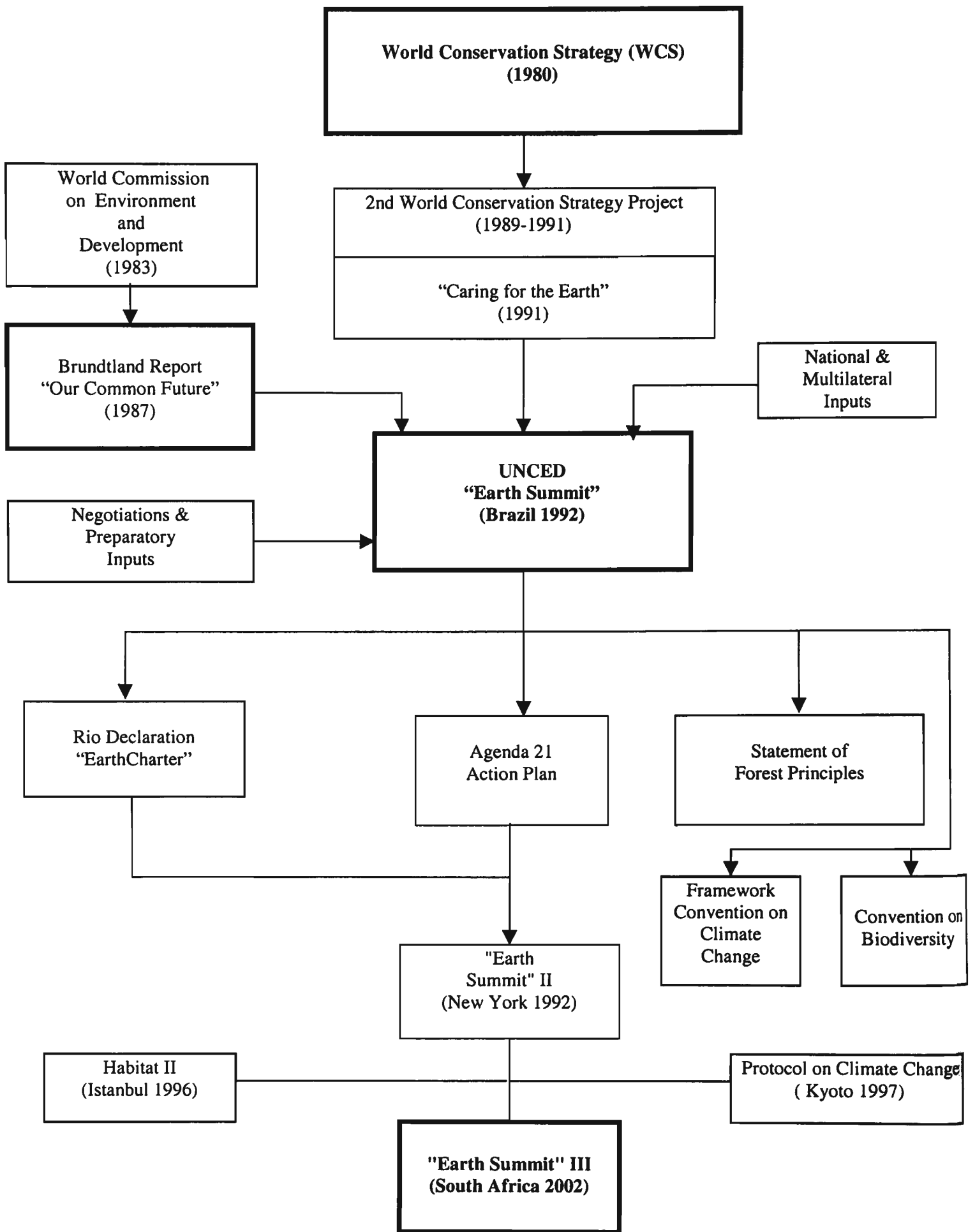


Figure 1.1b: Global Environmental Management Initiatives (WCS, 1980 to Present)

Since that time there has been an unparalleled, ongoing and intense public and scientific debate on the nature and degree of global environmental conditions and trends. Whilst this debate has occurred during a time of rapid and dynamic globalisation, it has been accompanied by improvements in the availability and wide dissemination of mass communication, which contributed to greater public awareness, education and understanding of these issues.

The significant impacts sustained by global landscapes, the irreversible nature of these changes and the loss of irreplaceable resources, have been growing constantly during the recent decades as witnessed by a series of international initiatives and forums which have been conducted subsequent to the 1972 UN Conference on the Human Environment. The principal elements of this evolving process at the global level of environmental awareness, concern, audit and action are graphically outlined in Figures 1.1a and 1.1b. These diagrams have been specifically derived to illustrate the principle connections between the main global initiatives and the evolution of collective appreciation and decision making forums at the international scale in regard to global environmental management issues. As illustrated in Figures 1.1a and 1.1b, the principal benchmarks subsequent to the 1972 UN Conference on the Human Environment, have been the 1980 World Conservation Strategy (WCS), the 1987 Report of the World Commission on Environment and Development (the Brundtland Report), the 1992 UN Conference on Environment and Development (Earth Summit) and more recently, the Earth Summit III review in South Africa. At each of these benchmark events, closer definition of the precise nature of contemporary environmental issues, and appreciation for the appropriate foci for action was articulated.

A review of the documents associated with these global landmark events will demonstrated that three themes consistently reoccur in regard to environmental management, namely: the need to adopt a planning approach; to address issues at the regional scale; and the relevance of a cooperative organisational approach.

1.2.2 Emergent Dimensions to Sustainable Development

The 1980 World Conservation Strategy (WCS), was the first global initiative to give currency to the concept of "sustainable development"¹. It incorporated a particularly strong call for cooperative international effort. The Strategy considered that one of the main obstacles to achieving the requirements of conservation to be a lack of environmental planning and subsequently devoted a whole section of the Strategy to that topic (IUCN, 1980: s10). It also

¹ The major intellectual breakthrough that the concept of sustainable development provided, especially at this scale of management, was the acceptance of the need for an integrated approach that embraced consideration for social and economic aspects along with the biophysical aspects. Hence, coordination was given additional emphasis as an imperative in a cooperative approach seeking to integrate these environmental aspects into a holistic framework.

noted that "a lack of coordination", which resulted in poor organisational capacity, was a further obstacle to achieving the objectives of the WCS (IUCN, 1980: vii). It advocated the development of national and subnational strategies as a means of "focusing and coordinating the efforts of government agencies together with non-governmental conservation organisations" (IUCN, 1980: s8). This was the first serious consideration of the need to address the world's environmental issues at subnational level. It argued that countries must establish a framework for achieving the objectives of the WCS through both the national level and "one or more subnational levels (provincial, state, municipal) (or) several levels, depending on the division of government responsibilities for planning management of land and water uses" (IUCN, 1980: s8). From this point on, the common catch phrase "think global, act local" became even more prominent in popular usage².

The call for cooperative international effort was given further and significant emphasis by the World Commission on Environment and Development (Brundtland Commission) (WCED, 1987). The release of the Commission's report also represented the next major milestone in the articulation of the importance of a holistic approach to environmental management that provide for the integrated consideration of social, economic and ecological factors in planning and management endeavors (WCED, 1987). The Commission had as one of its three main tasks to its mandate from the UN, to "strengthen international cooperation on environment and development, and assess and propose new forms of cooperation that can break out of existing patterns and influence policies and events in the direction of needed change" (WCED, 1987: 363). The Commission's report contained a particularly strong advocacy for a cooperative approach that was reflected as core principles in the Commission's recommended Legal Principles for Environmental Protection, with titles: "*General Obligation to Cooperate*", "*General Obligation to Cooperate on Transboundary Environmental Problems*", and "*Cooperative Arrangements for Environmental Assessment and Protection*" (WCED, 1987: 349). This imperative was also picked up as one of the eight principles of the "*Tokyo Declaration*", the Commission's final work, which was designed to guide nations, individually and collectively, towards goals of sustainable development (WCED, 1987: 365).

The notion of planning as a mechanism for achieving sustainable development goals, particularly within the urban environment, was canvassed by the Brundtland Report. The Commission argued for the adoption of national urban strategies, which "must go beyond the physical and spatial planning". It embodied within its recommended Legal Principles for Environmental Protection a "Sustainable Development and Assistance" principle stating "States shall ensure that conservation is treated as an integral part of the planning and implementation of development activities " (WCED, 1987: 349).

² In more recent times, this has given way to the catch phrase "think global, act local, manage regional".

On the question of an appropriate scale to address emergent environmental issues the Brundtland Report noted that "national boundaries have become so porous that traditional distinctions between local, national, and international issues have become blurred" (WCED, 1987: 312). It became one of the first major international studies to recognise both the importance of the subnational approach for addressing sustainable development objectives and the potential role of local government in this regard.

By the early 1990's, the subnational (local and regional) level had become an imperative scale for future cooperative planning, management and action. *Caring for the Earth* became one of the first studies to seriously address the constraints and inadequacies of institutional arrangements for effective environmental management at national levels. It argued for an integrated approach to sustainable environmental policy that amongst a number of institutional reforms, would require the introduction of institutional transboundary cooperative mechanisms, including the establishment of "collaborative policy forums which bring together representatives from government, environmental groups, business and industry, indigenous people and other interests" (IUCN/UNEP/WWF, 1991: 66). It further argued that nations should develop strategies for sustainability and implement them directly through regional and local planning, such that "national plans should be extended by regional and local land-use plans ... a joint project of government and the people who live in a region" (IUCN/UNEP/WWF, 1991: 66). It considered "local governments are key units for environmental care (*with*) responsibilities including land use planning, development control, water supply, waste water treatment, waste disposal, health care, public transport and education" (IUCN/UNEP/WWF, 1991: 60). It also gave added weight to the subnational approach by advocating for the adoption of the drainage basin as the unit of management in integrated approaches to land and water management (IUCN/UNEP/WWF, 1991: 32).

The cooperative focus received added emphasis from the 1992 UN Conference on Environment and Development (UNCED), and in the events leading to the Rio de Janeiro Earth Summit (IUCN/UNEP/WWF, 1989; 1990; 1991). Again, a consistent theme associated with UNCED was the reinforcement of the need to adopt a cooperative approach at the global scale. The Earth Summit outcomes are contained in five separate international agreements including: *The Rio Declaration on Environment and Development*; *Agenda 21*, its supporting Action Plan; the *Statement of Principles on the Management, Conservation and Sustainable Development of All Types of Forests*; the *Framework Convention on Climate Change*; and the *Convention on Biological Diversity* - with the latter two being the only legally binding documents. Unlike previous global initiatives, UNCED was the first to sharply focus on the responsibility of

individual nations to collectively achieve (ambitiously) integrated and sustainable outcomes between economic development and the environment.

The Rio Declaration reaffirmed the 1972 Declaration on the Human Environment and provided further commitment to the cooperative approach and global partnerships which underlay its twenty-seven principles (Grubb et al, 1993; Keating, 1993; Quarrie, 1992). Similarly, Agenda 21 reflected "a global consensus and political commitment at the highest level on development and environment cooperation" (Grubb et al, 1993: 102). However, whilst the public face of the UNCED outcomes maintained this cooperative view, the realities of eventual commitment by nations were somewhat disappointing and contradictory, as evidenced by the G77 position on individual state rights and the watering down of the final Rio Declaration (Davidson & Barns, 1992; Grubb et al, 1993; Rogers, 1993).

Agenda 21 acknowledged the importance of national governments in taking responsibility for the successful implementation of the Action Plan, and also noted "national strategies, plans, policies and processes are crucial for achieving this" (Grubb et al, 1993: 102). A number of chapters to *Agenda 21* contained specific reference to a planning approach, (IGC, 2000; UNDSO, 1999; Quarrie, 1992). Chapter 7 for example, in its call for land resource planning and management to be adopted primarily at national level, recommended that "planning activities should be strengthened through national plans, land resource inventories and information systems (*with*) cooperation of public, private and community sectors (*and*) coordination among international and regional agencies " (Grubb et al, 1993: 110).

The UNCED process also witnessed the emergence of a philosophical shift for the planning process - one towards a "bottom up" approach as opposed to state based or state driven planning as had previously been the accepted norm (Grubb et al, 1993: 17). The growing importance of the subnational focus, namely local government involvement, was projected into the international arena by its highlighted treatment in *Agenda 21* (UNDSO, 1999; IGC, 2000). Receiving separate chapter status (Chapter 28), and along with Chapter 27 (dealing with NGO's), some commentators believe that these two chapters represented "two of the most important chapters in the entire document" (Rogers, 1993: 220). *Agenda 21* acknowledged the importance of the local government level to achieving sustainable development objectives, noting that "local authorities are important in shaping environmental infrastructure, planning and policies because their governance is 'closest to the people' (*they*) have a vital role to play in achieving the objectives of *Agenda 21* (*and*) consultation, cooperation and coordination among local authorities should be established or enhanced " (Grubb et al, 1993: 139). This was supported by Chapter 8, which dealt with the topic of "Integrating Environment and Development in Decision-Making". It advocated "delegating planning and management

responsibilities to the lowest level of public authority consistent with effective action" (UNDSD, 1999; IGC, 2000).

Whilst the 1992 Earth Summit failed to produce the firm (legally binding) commitments and outcomes from the nations of the World that many were seeking³, it has given rise to growing calls for greater delegation of responsibility to the subnational level, particularly to the local government level. In addressing the failures and lost opportunities from the UNCED process, especially the failure of the Earth Summit, one group of commentators salvaged some positive outcomes when they commented: "optimists will point to the spirit of participation and local action" (Grubb et al, 1993: 95).

The focus on the local level was further reinforced by Habitat II, the UN's Second Conference for Human Settlements, held in June 1996. This conference sought commitments from national governments for their encouragement of "cooperation between local authorities, to strengthen the networks and associations of local authorities" (UNCHS, 1996). It also provided additional weight to the call for a planning approach when it promoted a decentralised system of national and local plans as the principal mechanism for the implementation of the Habitat Agenda (UNCHS, 1996).

The "Road from Rio" has led to Earth Summit III in South Africa in 2002, after having been formally reviewed by Earth Summit II in June 1997. In the intervening years there have also been a number of allied initiatives, namely Habitat II. The implementation of the Habitat II agenda clearly focused on a cooperative approach with particularly strong emphasis being placed on the formation of partnerships, the activation of participatory mechanisms, particularly at national and local levels, and for innovative cooperative approaches (UNCHS, 1996). Partners should include "national governments, local authorities, non-government organisations, private sector leaders, community-based organisations, woman's and youth groups, trade unions, parliamentarians, academies of science and engineering, professionals and researchers, foundations, the media and entities of the United Nations System, including the Bretton Woods organisations" (UNCHS, 1996).

1.2.3 Future Challenges for Integrated Cooperative Subnational Planning

In summary, the last quarter of the last century has witnessed particularly strong and growing international level advocacy for the cooperative focus to shift to the subnational level. The previous discussion has demonstrated that the conduct and outcomes of the 1992 Earth Summit and subsequent international actions (or inactions) whilst providing examples of attempts at

³ Apart from associated commitments such as the *Framework Convention on Climate Change* and the *Convention on Biological Diversity* noted earlier.

cooperation at the global scale for planning and management of global landscapes and resources, has also demonstrated the primacy of individual national sovereignty in circumstances of conflicts between national and collective global goals. Essentially, effective cooperation has been supported and achieved for a range of activities including: collaborative research; information sharing and data transfer, monitoring, conferencing and a range of other "plan making" activities, BUT it has been less successful when it has come time to commit to "plan implementation".

The breadth of environmental issues has likewise changed requiring a more comprehensive and integrated approach. Rogers (1993: 30) has noted that whilst "there were similarities between the Stockholm conference of 1972 and the Earth Summit of 1992, there were tremendous differences". From an earlier 'natural resource and ecologically dominant' focus on how to preserve and enhance the human environment, the focus has shifted in the intervening period, through the 1980 WCS and the 1992 Earth Summit to the present concern for a more holistic approach which is inclusive of social and economic aspects of development. Whilst natural resource and ecological issues are important, the contemporary view advocates for an integrated planning approach where those issues can be appreciated in their wider social and economic context and where their interdependence and interconnections can be acknowledged.

These issues will need to be addressed within the context of circumstances articulated by the UN Commission on Sustainable Development report in relation to the 2002 Earth Summit III. The CSD NGO Steering Committee saw that "the world has changed enormously since the 1992 Summit. We have seen globalisation come to the forefront; we have experienced the outcomes of the changes in eastern Europe, as well as the increased role for multi-national companies ... " (UNCSD, 2000: 1). This review saw the major impediments to the implementation of *Agenda 21* as "the lack of systematic and shared understanding of what the obstacles are". It went on to suggest that these obstacles may be: financial; a lack of peace; capacity; education; transfer of knowledge and technology; lack of sufficient differentiated data; or lack of participation of relevant stakeholders. It further stated that "one problem with this is that addressing obstacles is an analytical rather than a visionary process", which will require a thorough preparatory process prior to Earth Summit III (UNCSD, 2000: 17).

1.3 A CHANGING NATIONAL LANDSCAPE OF ENVIRONMENTAL MANAGEMENT

1.3.1 Environmental Challenges and Responses in Australia

Australia's first independent State of the Environment Report (SoER) concluded that the nations environmental problems are "the cumulative consequences of population growth and

distribution, lifestyles, technologies and demands on natural resources over the last two hundred years or more" (SoEAC, 1996a: ES-4). Assessments completed for the 1996 and 2001 SoERs have reinforced these conclusions. The 1996 SoER identified a number of key issues that its SoE Advisory Committee (SoEAC) assessed as critical to the improvement of the state of Australia's environment. These key issues, along with the SoEACs assessed key threats to sustainability, are tabulated in Appendix 1.1. The articulation of these important issues for future management of the landscape (and resources) raises the challenge of ensuring that they are addressed and assigned a priority in future planning undertakings⁴

In view of the significant environmental changes and impacts to national landscapes during the last few decades, it would be informative to examine Australia's international and domestic responses to the major global environmental initiatives that took place during this same time frame, as previously examined in Section 1.2. The sequence and pattern of these national environmental management activities and events have been established and is graphically outline in Figure 1.2. As with Figures 1.1a and 1.1b, this diagram illustrates the principle connections between the main national initiatives (bold text boxes) and the evolution of collective appreciation and decision-making forums at the national scale in regard to national environmental management issues.

1.3.2 Towards a Domestic Agenda for Cooperative Environmental Management

Australia participated in the 1972 UN Conference on Human Settlements. The then Minister for the Environment, Aborigines and the Arts, (Peter Howson), presented a Ministerial Statement to the House of Representatives (CoA, 1972) which in essence became Australia's national report to the conference. In his opening remarks, Howson portrayed a very positive picture of environmental management in Australia. The specific issue of cooperation was to the fore of Howson's agenda when he said "our philosophy is direct to the end - to devising and developing such a pattern in cooperation with the States, with local government, with business and industry and the community as a whole" (CoA, 1972: 3).

⁴ An assessment of the appropriateness of an approach that adopts a cooperative planning paradigm applied at regional scale to address these key issues and threats to sustainability has been completed and is discussed in a later section in this study – see Section 9.3.1 and Appendix 9.4.

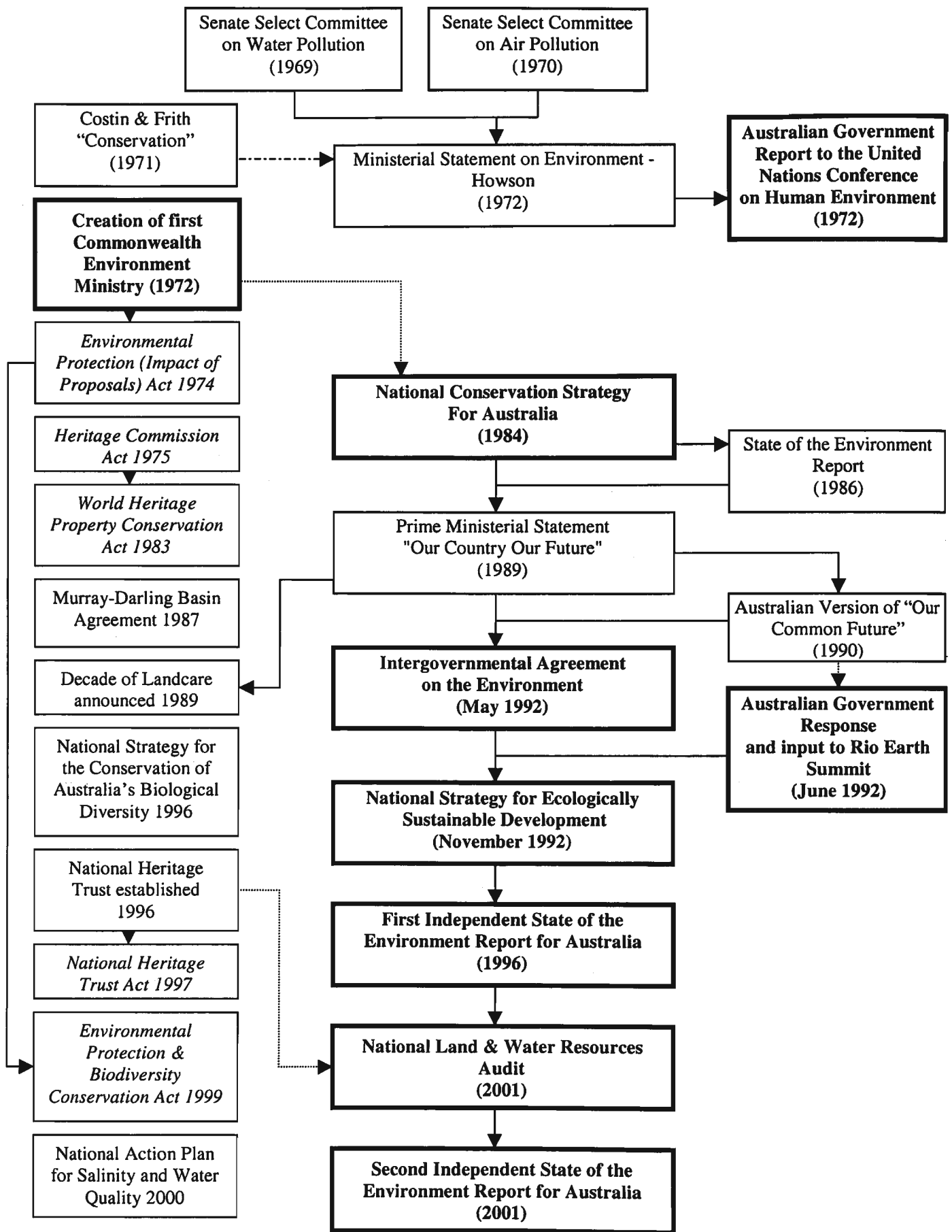


Figure 1.2: Australian National Environmental Management Initiatives

In addressing the national problem, Howson immediately spelt out that "the main responsibility for the environment over the greater part of the continent lies with the States ... that is the constitutional problem". Noting the need to cooperate (and coordinate) across boundaries with the States, Howson identified the following areas of national responsibility for the Commonwealth: leadership in research; cooperation; acting within powers; and, making the public aware of the dangers to their environment. He further cited three reasons for a national approach, namely: pollution of the air, rivers and sea is not confined by State boundaries; various authorities, government or otherwise, must act in harmony; and the fact that national action may be needed to meet specific international obligations (CoA, 1972: 4).

Howson advocated that "environmental objectives go hand in hand with economic, social and cultural goals" in terms of national development". He argued that "the environment is a major factor in the planning and management of practically all forms of development from human settlement to engineering and industrial works" (CoA, 1972: 3). Not only was there this early recognition of a need for a planning focus to facilitate environmental management, but it clearly embraced what would be considered in contemporary terms, an environmental planning approach.

The Australian Government's report concluded with a focus on water and air pollution. An earlier Senate Select Committee inquiry into water pollution (1970) was damning in its conclusions related to diffused responsibility. It stated that "there is nothing in the present piecemeal and parochial administration of water to prevent the insidious growth of pollution excesses the problem of pollution is so vast, the responsibilities so diffused, and the ignorance of causes and consequences so widespread, that only a concerted national effort can save many Australian water resources from becoming unusable the overwhelming weight of evidence suggests that order can be brought to this chaos of authorities only if they are coordinated at the national level" (CoA, 1970b: xiv).

The following year, saw the publication of what was perhaps Australia's first independent scientific audit of selected environmental aspects (Costin & Frith, 1971). Thirty years ago, the key issues were "quality of the environment problems - of air, water and noise pollution, open space, landscape and general 'liveability' ... " (Costin & Frith, 1971: 279). In their concluding summary, they noted "one of the real dilemmas of modern conservation is the fragmentation of responsibility for the different resources, with increasing competition between government agencies, at a time when a coordinated holistic approach to resource use is urgently needed" (Costin & Frith, 1971: 280).

Positive planning sentiments were also echoed by Costin and Frith (1971: 280), who noted that "despite the increasing pressures for land, the amount of land is fixed, and that there should be basic 'ground rules' for its use as well as the more accepted economic and political criteria". They advocated for resource and land use assessments in terms of 'capability' and 'suitability' to be applied, and that "careful land use planning on a regional basis, involving zoning or multiple use, or both, should be a prerequisite for the use of land".

The advent of the Whitlam Labour government in December 1972 witnessed the introduction of a number of strong reform agendas amongst which it was hoped that "environmental protection would be pulled into the mainstream of the Australian settlement, a goal long sought by conservationists" (Hutton and Connors, 1999: 133). An important outcome of this change in political direction was the recognition given to environmental matters through the establishment of the country's first environmental ministry. However it was given to a junior minister (Moss Cass) and "the environmental portfolio was generally regarded as the one with the lowest prestige" (Hutton and Connors, 1999: 134). Never-the-less, this elevation of environmental matters to national level with a clear point of contact within the federal government did subsequently produce a number of important initiatives. One of the most prominent of these new environmental initiatives was the *Environmental Protection (Impact of Proposals) Act 1974*.

Whilst a number of State and Federal environmental agencies were subsequently established and met with varying degrees of success, the next major milestone of national significance, did not occur until the middle of the 1980's. This was a consequence of the 1980 WCS of which Australia was one of the original 34 signatories. In fulfilling its commitments to the WCS, the Commonwealth government released its National Conservation Strategy for Australia (NCSA) in 1984. The NCSA had as its objectives, the three objectives (ecological) from the WCS, namely, maintaining essential ecological processes and life support systems, preserving genetic diversity, and ensuring sustainable utilisation of species and ecosystems. However, it also included an additional objective in the form of maintaining and enhancing environmental qualities, which is clearly an outcome achievable through an environmental planning approach. Interestingly, the structure of the NCSA (1984) contained the elements of a planning process.

The NCSA noted that "insufficient coordination between the various bodies involved in making decisions about living resources" was an obstacle to achieving the NCSA objectives (CoA, 1984: 14). In response, it recommended the following priority national actions within the area of policy, planning and coordination: "strengthen coordination of action in and cooperation between the Commonwealth and the States and amongst the States on living resource issues of national significance"; and "establish machinery to improve communication and to promote

cooperation between community groups, industry and governments on matters related to the implementation of the NCSA" (CoA, 1984: 18).

The NCSA also concluded that "inadequate planning for the integration of conservation and development for a sustainable future" was an obstacle to achieving its objectives (CoA, 1984: 14). The subsequent priority national action in response was to "integrate land use planning and environmental assessment by encouraging a multidisciplinary approach (including socioeconomic effects) to ensure that conservation and development issues are not addressed in isolation" (CoA, 1984: 18).

Following on from the 1984 NCSA came a Prime Ministerial statement on the environment, titled *Our Country Our Future* (Hawke, 1989). Drawing from the objectives of the NCSA, the government of the day produced a set of ministerial guidelines in the form of "Principles for Decision Making". These established ecologically sustainable development (ESD) as a key policy framework for Australia. Cooperation was seen as one way to give effect to these principles, namely, "the dimensions of many environmental problems are such that they can only be addressed by cooperative action - both between individuals and governments" (Hawke, 1989: 7). It noted that cooperation was necessary at scales varying from local to international.

The 1987 release of *Our Common Future* by the World Commission on Environment and Development led to the subsequent publication of an Australian version by the same title (WCED, 1990). In addition to a Forward by the Prime Minister, this version included a section prepared by the Commission for the Future, a Commonwealth agency which had responsibilities for raising public awareness of emerging issues and for promoting planning for preferred outcomes (WCED, 1990: 25). The PM's forward reinforced the earlier commitments of *Our Country Our Future* for cooperation. Noting the enormous challenges of simultaneously achieving economic and ecological sustainability, the Commission for the Future considered that professional organisations, "especially integrating professions such as engineers, economists, urban and industrial designers, and landscape planners could have a large impact on social values and productive practices" (WCED, 1990: 25).

A cooperative national approach to the environment was achieved between the Commonwealth, State and Territory, and Local governments on the 1st May 1992 with the signing of the *Intergovernmental Agreement on the Environment* (IGAE, 1992). A principle aim of this agreement was to better define the responsibilities of respective governments. It also provided an important endorsement of the principles of ESD. In the same year, the National Strategy for Ecologically Sustainable Development (NSES) considered that ESD in the Australian context to "represent one of the greatest challenges facing Australia's governments, industry, business

and community in the coming years” (CoA, 1992a: 60: 6). It went on to define ESD as “using, conserving and enhancing the community’s resources so that ecological processes, on which life depends, are maintained, and the total quality of life, now and in the future can be increased” (CoA, 1992a: 60: 6). The NSESD also encapsulated a principal goal, core objectives and guiding principles for ESD (see Appendix 1.2). The NSESD was developed along sectorial lines and throughout the document there was a strong recognition in most sectoral reports of the need and value of a cooperative approach (CoA, 1992a).

An integrated planning approach, underpinned by principles of ESD, was a major component of the NSESD. The prime focus on environmental and landscape management contained in the intersectoral issue report of "Land Use Planning and Decision Making" concluded that there had been a normal reliance on independent action, usually by regulatory means to manage cases of excessive environmental resource use which gave the perception that such problems could be dealt with independently of each other and separate from economic development decision making. It argued that "Australia's environmental management regime has developed as a piecemeal process, responding to particular problems and matters of public concern as they arose (*becoming*) characterised by a reactive and corrective approach (*with*) two important exceptions land-use planning and management, and environmental impact assessment processes" (CoA, 1992b: 202). It went on to acknowledge that in practice, administrative limitations had not allowed the full scope of planning's integrated decision making potential to be reached. The report concludes "land-use planning and management regimes in particular have been subjected to sudden short-term changes of direction, usually for political or economic rather than for social or environmental reasons" (CoA, 1992b: 202). The NSESD recommended that a strategic approach for this issue should be pursued through "developing methods to enable land use planners and decision makers to place risk-weighted values on goods and services; further developing mechanisms to integrate non-economic and economic considerations into decision making processes; promoting multiple and sequential land use; and streamlining planning and decision making processes while ensuring effective public input" (CoA, 1992a: 60).

The Australian government's response to the Rio Earth Summit (June 1992) represented a commitment to the Rio Declaration, Agenda 21 and both Conventions and the Statement of Forest Principles, with the ensuing consequences as previously discussed in Section 1.2. Essentially, these commitments to progress the UNCED outcomes involved undertakings with cooperative foci ranging from multilateral activities at the international level through to cooperative intergovernmental arrangements at the domestic level. Much stock was placed in the soon to be released National Strategy for Ecologically Sustainable Development (Kelly, 1992).

The 1996 State of the Environment Report (SoE), has advocated for a "bioregional planning" approach as a means to overcome problems where "biodiversity conservation and management are bedevilled by the large number of public agencies involved, administrative boundaries that do not have any particular physical, geographic or ecological basis, and the cumulative effects of many developments". This report defined bioregional planning as "an ecological and social framework within which governments, business and community interests share responsibility for coordinating land use planning and devising development options that meet human needs in a sustainable way without further loss of biodiversity". It is seen as a means to overcome "the major problems associated with fragmented decision making, or the tyranny of small decisions", but at the same time acknowledged that "much more knowledge is required to implement this approach, not all biological" (SoEAC, 1996b: 22).

National initiatives to provide protection and rehabilitation for natural landscapes were put into effect by the Commonwealth government with the establishment of the \$ 29.4 million National Heritage Trust (NHT) at the end of 1996. It had the stated aim of integrating environmental protection, sustainable agriculture and natural resource management with principles of ESD (Conacher and Conacher, 2000). A major intent of the NHT initiative was to foster partnerships between industry, the community and all levels of government.

Further intergovernmental cooperation has been initiated as a consequence of the 1992 IGAE. For example, the IGAE identified the problems related to the paucity of environmental data. Recent initiatives to rectify these deficiencies have started with the commencement in 2001 of the National Land and Water Resources Audit (NLWRA)⁵ and the establishment of the Australian Collaborative Land Evaluation Program (ACLEP). It is the intention that the outcomes from the NLWRA will better inform the decision-making process associated with the NHT.

Subsequently, the NLWRA released its dryland salinity assessment in collaboration with the State and Territory governments in early 2001 (CoA, 2001). The major governmental response to the long-term risks from salinity identified by the NLWRA initiative was the launch of the National Action Plan (NAP) for Salinity and Water Quality in late 2000. The focus of the NAP is to be "community-driven action directed at salinity and water quality problems in key catchments and regions" (CoA, 2001: 81).

⁵ An appraisal of the status of soil and water degradation in Australia and the environmental, economic and social costs to the nation.

1.3.3 Towards a Cooperative Catchment Approach

Whilst earlier works noted the cooperative focus, most saw this being achieved at the national level (CoA 1970a&b, CoA, 1972). The first recognition of a subnational focus came with Costin and Frith (1971) in terms of a regional planning approach, as previously discussed.

The NCSA noted that "uncertainty about which of the local, state and federal levels of decision making is appropriate for particular matters" was an obstacle to achieving the NCSA objectives (CoA, 1984: 14). Consequently, it recommended the harmonisation of conservation and environment protection legislation within Australia (CoA, 1984). The IGAE formally introduced an agreement to consider the regional scale, particularly in terms of such matters as the assessment of regional cumulative impacts, and regional implications where proposals for resource use affects several jurisdictions (IGAE, 1992). The application of the NSESD was consequently seen as applicable at all three levels of government (CoA, 1992a).

Many of the key environmental challenges are associated spatially and ecologically with drainage basins, river catchments, or other 'bioregional' defined spatial units of subnational scale. Whilst noting that "many river systems, wetlands and underground water resources were severely degraded (*the first SoE report considered that*) planning related to river management, agriculture and urban development should give greater consideration to environmental effects" (DAHE, 1986: 3/4). This view has subsequently been reinforced by the independent 1996 SoE report (SoEAC, 1996a). This latter study considered that "the loss of biodiversity is perhaps our most serious environmental problem" (SoEAC, 1996b: 13). The Biological Diversity Advisory Committee had earlier called for conservation activities to be strengthened and that one important initiative in this regard would be to "manage biodiversity through a regional basis" (BDAC, 1992: 3).). The Australian government's report to the Rio Earth Summit supported this view and considered that "a region may be based around a major catchment ... " (CoA, 1995: 13).

More recently, the House of Representatives Standing Committee on Environment and Heritage inquiry into catchment management concluded that "an approach based on management of catchments must underpin the identification of the problems, the administrative arrangements and ultimately, the delivery of appropriate remedial measures" (CoA, 2000: 43). This has been given additional weight with regional planning approaches being advocated by the NAP for salinity and water quality. Whilst it is recognised that regional plans will vary from catchment to catchment, they will have a common aim of managing regional water quality, salinity and bio-diversity through a range of measures and initiatives ranging from rehabilitation actions, engineering and drainage improvements, and land use management activities (CoA, 2001).

1.4 THE FUTURE CONTEXT FOR COOPERATIVE GOVERNANCE AT SUBNATIONAL LEVELS

The previous review of the changing global landscape of environmental management concluded that an analytical, as opposed to a visionary approach, would now be required to address the obstacles to achieving the 1992 *Agenda 21* outcomes (see Section 1.2.3). However, the UN Commission on Sustainable Development has already noted that the world has changed enormously since the 1992 Earth Summit I, citing examples such as the process of globalisation, major transformations of the global political landscape and the rise of the multi-national organisation (UNCSD, 2000: 1). Consequently, the implication for future collaborative environmental planning and management endeavours at the subnational level must be considered in the context of ongoing global and strategic change - the subject of this section.

Likewise, the implications of global change in the national context must also be considered. In this regard, Howe considers that "Australia is not alone in experiencing change in inter-government relations as a result of world-wide trends in globalisation and internationalisation" Quoting Goldsmith, he notes that "throughout the world, there are a series of changes taking place which impact on regional and local governments, forcing them to adapt their behaviour and to change their relationship with other levels of government vertically and horizontally" (Howe, 1995: 179).

As planning is an activity concerned with the future, there will be a need to address the effects that globalisation and the advent of information age technologies and associated trends could have on future attempts at cooperative planning effort, particularly at subnational levels. Additionally, the potential for planning endeavours to influence and shape future landscapes should also be canvassed. Blumenfeld (1999: 7) sums up this approach thus, "studying our possible futures can not only enhance our ability to understand what is happening in a wider historical context but can also imbue our consequent acts with a greater awareness and a feeling of participation (*to the point where*) we can ultimately affect the outcomes".

1.4.1 Societal Changes in the Global Context

a. Nature of societal changes

The dominant features that sets the recent lead up to this new millennium apart has been the unanticipated rapidity of the changes that have occurred and the ubiquitous and incremental nature of change, with the potential to impact on almost all aspects of human life and endeavour. In the rapidly emerging Information Age, the future role of government, and the

nature and dimensions and indeed, the continued relevance of contemporary planning have been brought into question.

The majority of present day nations and economies are outcomes of the Industrial Revolution. This has led to the creation of mass societies characterised by mass consumption, mass production, mass education and mass media, and where wealth was created through factory production. Toffler and Toffler (1994) argue that these are fast becoming outdated redundant concepts, in a world dominated by emergent brain-based economies that are characterised by de-massing on all fronts of society.

A number of opposing views emerge with respect to the Toffler's "shallower writings" (McGuigan, 1999: 2), and the repeated questioning of "the theoretical and empirical foundations of their work" (Downey, 1999: 206). The major areas of disagreement ensue in regard to either the Toffler's "technological determinist" perspectives, or the "technological utopianism" position discussed by authors such as Graham and Marvin (1996), Downey (1999), and Godet (1994). Not-with-standing the importance of this internal academic debate, what is pertinent to this thesis is the general agreement amongst the protagonists that a series of significant economic and political transformations and innovations characterise the changes now occurring (see Tsakalos, 1995; Graham and Marvin, 1996; Loader, 1997; Ellyard, 1998; Downey and McGuigan, 1999). There is also general consensus for the view that regardless of the cause, these transformations and innovations can have potentially significant implications for future planning practice.

These transformations are occurring in a global context. Ellyard (1998: 2) sees three major forces of global change at play, which are "destabilising and traumatising national economies, particularly in developing countries", viz:

1. *Globalisation* the move towards a global economy and the associated rise of the transnational corporation;
2. *technological change* principally information technology, biotechnology; new material technology and nano technology; and
3. *tribalisation* - the splitting of large entities into smaller states on the basis of ethnic differences.

Ellyard describes these contemporary global developments in the context of the Post-Modernism era that he sees as the reaction to the excesses of the previous Modernism era. Modernism, the dominant paradigm of the twentieth century, held that the world required modernisation, new was better than old, progress was good and should not or could not be stopped, the western way was the only way, indigenous world views were considered inferior,

and that physical and conceptual frontiers could expand endlessly and that there were no limits. In the wake of negative and undesirable potential outcomes of this former era, such as the postulated ecological crisis, nuclear holocaust and cultural genocide, the Post-Modernism era has the task of deconstructing Modernism. In doing so, it recognises the value of the past, and seeks a synthesis of the new and the old, integrating aspects not conceivable or possible during the Modernism era.

Ellyard sees the Post-Modernism era as leading to a new cooperative paradigm of human endeavour that he calls "Planetism" (or the Spaceship culture). This new Planetism paradigm is well underway and gradually replacing the excesses of the Modernism era, (Ellyard's Cowboy culture). This spaceship culture differs from its predecessor in a number of important respects as outlined in the following table.

Table 1.1: Characteristics of the Cowboy and Spaceship Cultures

Cowboy Culture (Modernism) - 1950	Spaceship Culture (Planetism) - 2020
Individualism	Communitarianism
Independence	Interdependence
Autocracy	Democracy
Humanity against nature	Humanity as part of nature
Unsustainable production and consumption	Sustainable production and consumption
Patriarchy	Gender equity
Intercultural and interreligious intolerance	Intercultural and interreligious tolerance
Conflict resolution through confrontation	Conflict resolution through negotiation
Reliance on defence	Reliance on security

(Source: Ellyard, 1998: 26)

It has already been noted that all facets of society stand to be affected by these global changes, including lifestyles, work, leisure, education, family structure, and the economy - in fact all aspects and concerns of contemporary and future planning.

b. A "third wave" theory

An explanatory framework for these recent global changes has been advanced by Toffler's "Third Wave" theory. Toffler argues that the current collective transformatory changes are part of a global evolutionary civilisation process. This process commenced with the Agrarian Revolution some 1000 years ago providing the "First Wave", followed by the Industrial Revolution, 300 years ago, as the "Second Wave", and the contemporary emergence of the "Third Wave" evidenced by the development of new ways to create and exploit knowledge. Toffler's Third Wave is characterised by swift and radical changes to every dimension of society

from technology, family life, religion, culture, politics, business, leadership, values, sexual morality and epistemology (Toffler, 1980).

Toffler and Toffler (1993) argue that their theory brings into question the future relevance of the notion of nationalism as well as the role of the nation state, which they note is a product of the industrial revolution. They also point to the recent trend of political power transferring from the long established institutions of government to electronically networked "grassroots" community groups and to the media. This is an important issue for future planning endeavours, as planning has traditionally and principally been a dominant function of governments. These issues are taken up in subsequent discussions dealing with emergent forms of collaborative planning (see Sections 5.3.5 and 6.3 in particular).

As previously noted, a number of authors take issue with the technological determinist perspectives such as those presented by the Tofflers. Instead, they see "technological innovation and implementation as resulting from a multiplicity of factors that combine to produce specific effects in a variety of circumstances". They promote "localism" and argue that "there is no inevitability in the making and deployment of technologies and there is no place quite like any other place (*and that*) global trends have different manifestations in different places" (McGuigan, 1999: 1; also Graham, 1999).

1.4.2 The Nature of Ongoing Global Change

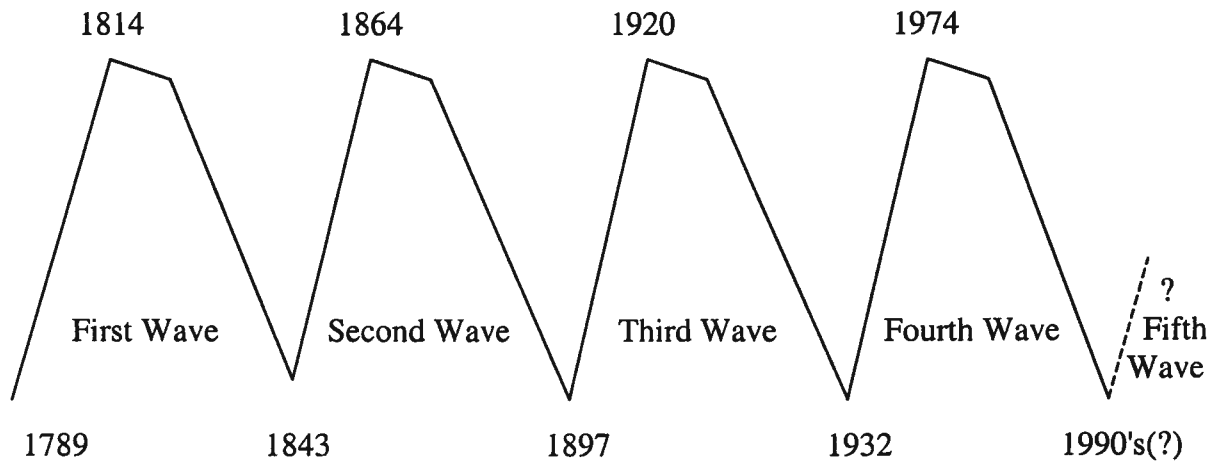
a. Historical cycles of change

Hall (1998) places these recent global changes into yet broader context, suggesting that there is evidence that the evolution of capitalism from the industrial to the informational era is coincident with the base of a fifth Kondratieff long wave of economic development. He cites the advent of a number of major technologically driven developments, viz:

1. the development of the Internet as a new infrastructure of communications;
2. growing world-wide interconnection (including trends towards greater portability and mobility);
3. the digital revolution;
4. resultant "killer applications" (ie what the technology enables the innovative implications of the opportunities presented by the technology); and
5. the multimedia revolution.

The Russian economist Nicolai Kondratieff's theory of long wave economic cycles is based on the recognition of 50-55 year cycles of economic activity with each cycle fluctuating from boom to depression and back to boom. Kondratieff, arguing from a Marxist viewpoint, pointed to the

occurrence of major crises in the capitalist system every 55 years caused by the exhaustion of a given generation of technology. Capital then had to be diverted into new technology in order to stimulate new sets of industries that could then facilitate the re-commencement of the next long wave cycle. The triggers for each cycle were "bunches" of innovations. These generic cycles are diagrammatically illustrated in Figure 1.3.



(based on: The Longwave and Social Cycles Resource Centre, 1995)

Figure 1.3: Kondratieff's Long Wave Economic Cycles

Subsequent work from other fields including sociology, demography, and urban planning have addressed and contrasted a range of developments against Kondratieff's long wave theory with a high degree of correlation. This work has identified relevant characteristics of these long waves to include:

- each wave is associated with the development of new innovations and the rise of new industries, (see Table 1.3);
- each of the four waves represents a new industrial revolution, (see Table 1.3);
- the upside of the curve is characterised by economic prosperity, construction boom, jobs growth, a baby boom (Cheung's [1995] Generation "B"), upsurge in the woman's movement; and
- the downside of the curve is characterised by economic decline, a commencement associated with feverish land speculation, jobs decline, a baby bust (Cheung's Generation "X"), Conservative governments, downturn in woman's movement.

The relationship between these groups of long waves, their associated innovations and enabling transport technologies and the resultant urban developments is established in Table 1.3. Importantly Tsakalos (1995: 61) reminds us, "individual innovations in themselves have not

changed urban form. Individually or collectively they offer mechanisms to revolutionise the way in which we do things".

Table 1.2: Correspondence of Long Waves with Technological and Urban Developments

Long Wave	Innovation	Transport Development	Urban Development
First Long Wave	Original Industrial Revolution	Road, river/canals	Genesis of the industrial city
Second Long Wave	Steam and steel, telegraph	Transcontinental Railways, steamships	Urban settlement pattern and hierarchy
Third Long Wave	Electricity, chemistry and motors, telephone, radio, motion pictures	Commuter railway and metro subways, motor cars	Concentration of business in urban cores, dispersed residential suburbs
Fourth Long Wave	TV, informational machines, personal computer,	Freeways, motorways, jet aircraft, private cars	Further dispersion of residential suburbs
Fifth Long Wave (?)	Information age technology, internet	Fast, telecommuting	Fifth Sphere? (see Table 1.4)

Potential implications for future planning can be gauged from Hall's composite "rhythm of urban development" theory consequent to the series of Kondratieff Long Wave Economic Cycles. He states, "... an innovative burst, precipitating a Kondratieff economic boom, produces a new transportation or communication technology, which in turn fundamentally alters the pattern of accessibility and the popular perception of it; as a result, urban space is revalorized: rural areas, previously almost valueless, suddenly become valuable, central areas with certain properties suddenly have new potential after a short interval, large changes in urban form and urban structure result" (Hall, 1998: 616). Hall further notes that these Kondratieff long waves force the public and private sectors to explore new and unexplored interrelationships in the quest to devise new ways of combining public and private funds to provide the massive urban infrastructure. Glasson (1992) on the other hand, has commented that the long wave theory cannot clarify the regional locational requirements for innovation development, but merely provide us with a useful descriptive framework.

If Kondratieff's Long Wave Economic Cycles (Figure 1.3) are examined in the context of Toffler's "Third Wave" theory that asserts that we are entering a new era of civilisation, then there may be good reason to expect that a radical set of changed circumstances may follow. If this is extended to Hall's assertion that we are witnessing the beginning of the fifth Kondratieff long wave of economic development, then we may not be able to assume that future long wave oscillations will necessarily be a mirror repeat of the past. If it is the first wave of the new Information Age, its future shape may be radically different from all previous long waves of the Industrial Age. There are growing indications that this potential scenario may well be dominated by a set of emergent characteristics that have commonly been associated with recent events, namely rapid, ubiquitous and incremental change.

This then raises the question as to whether society's emergent management needs in response to these changing circumstances can be adequately accommodated by traditional forms of governance and planning which were derived in a past industrial era to serve the needs of that era.

b. Emergent Partners in Sustainable Management

The emergent forms of corporate governance associated with multi-national global organisations have in recent years moved quickly to embrace a global and strategic level environmental ethic - one acceptable to their customers, shareholders, partners, employees and the general community alike. This has very quickly flowed through the private sector to embrace national and local organisations. These changes came at a time of significant increase in public awareness and concern for environmental matters to the point where the public now have more discerning requirements for quality of life issues along with higher expectations of governments and the private sector in executing their environmental responsibilities, ecological as well social. The widespread public concern for the irreversible changes and damage to global ecosystems, and the realisation that contracting governments can have only limited influence on environmental management outcomes, has in very recent time given rise to a new force in community-based politics. These emerging pressure groups now embrace concerns for the environment (economic, ecological and social), corporate behaviour, ethical investments and the social responsibility of the private sector.

Sarre and Treuren (2001: 8) note that “all of these developments are now coalescing in an increased interest in one particular approach to ensuring sustainability – the ‘triple bottom line’ approach”. The *Triple Bottom Line* (TBL) approach dismisses the financial ‘bottom line’ as the sole measure of success. Instead, its advocates argue that it must now include equal consideration and active management attention of the other accepted elements of sustainability in all business transactions, namely the environmental and social values and impacts associated with a company’s business activities (Sarre and Treuren, 2001 and 2002; SustainAbility, 2002).

Elkington (1997), the author of the Shell Report and credited with coining the TBL concept, argues that companies can gain a long-term competitive advantage through the incorporation of a TBL approach in their strategic plans. Companies are encouraged to publicly report their performance and to develop reporting procedures for a “balanced scorecard” that can account for the three accountabilities of financial, environmental and social activities and achievements (SustainAbility, 2002).

Quoting Henderson, Sarre and Treuren (2002: 6) acknowledge that “the ongoing success of triple bottom line activities will depend on the ability of TBL aware companies to convert TBL practices into increased profitability. Unless TBL practices lead to increased profitability it is naive to expect that organisation, located within a competitive market, will be able to survive, if their rival firms remain solely focused on economic criteria”.

1.4.3 Cooperative Planning in the New Millennium

a. Impacts on planning themes and landscapes

The Tofflers' claim that their postulated emerging Third Wave civilisation will bring "a genuinely new way of life based on diversified renewable energy sources, on methods of production that make most factory assembly lines obsolete, on new non-nuclear families, on novel institutions that might be called the 'electronic cottage', and on radically changed schools and corporations of the future" (Toffler and Toffler, 1994: 20). If elements of this scenario become indicators of our future operating environment, what then will be the impacts on, and implications for, cooperative planning?

Yencken (1986) noted two principle phases to the information technology revolution that will cause significant changes to the fabric of our cities and provide increasing challenges for future urban planning. These involved firstly the automation of simple information and processing tasks and then automation of knowledge processing and mental tasks involving reasoning and learning. As discussed below, the second phase is now well underway and already shows signs of impacting on urban form, urban structure and settlement pattern. Whilst the most apparent physical and visible impacts from these developments to date are evident in our cities, they clearly will also have wider implications for planning generally, including the planning related to regional and rural environments.

Of particular significance is the emergence of the technopole phenomenon. Technopoles have been defined as planned developments of private and public investments centered on universities and research establishments with the principle aim of generating new information (Castells and Hall, 1994; Castells and Hall, 1996). This new information is then embodied into high technological products in co-located establishments - what they describe as the "mines and foundries of the informational economy" (Castells and Hall, 1996: 476). They see the technopole as the physical realisation of the profound modification to the structure and growth dynamics of our cities and regions brought about by "the interplay of three major, interrelated, historical processes", namely: (1) a technological revolution; (2) the formation of a global economy, and (3) the emergence of a new form of economic production and management - informational, (Castells and Hall, 1996: 477).

Castells and Hall (1996: 480) go on to cite "the emergence of a new industrial landscape", within and outside existing major metropolitan centres, where "new regions emerge as successful locations of the new wave of innovation and investment". They argue that the creation of an "innovative industrial milieu" in a social, institutional, organisational, economic and territorial sense, will be crucial to the success of technopoles. This will involve creating the conditions for continuous generation of synergy and for its investment into the production process that leads to dynamic regional and local economic growth.

Further insight into other potential changes to future urban and regional landscapes is provided by the "Multifunction Polis" (MFP) concept. The Japanese Ministry for International Trade and Industry have outlined five spheres of historical city development leading up to the MFP, which are outlined in the following table.

Table 1.3: Five Spheres of Historical City Development

Sphere	Function	Era
First	Home and workplace combined	Medieval
Second	Home and workplace divided	Industrial revolution
Third	Recreation emerged as an independent realm distinct from the first two spheres	Early twentieth century
Fourth	Transfer of third sphere in time and location and an extension of conventional life-style Rapid growth of extended-stay resorts with combined diversification of life-styles and values	Late twentieth century
Fifth	Combination of all four sphere elements leading to a city not classifiable under any one of them The realisation of a Multifunction Polis.	Twenty-first century

(Source: Ministry for International Trade and Industry - Japan, 1987)

These trends are consistent with post-modernism thought that seek the integration of complimentary activities within discrete nodes across a landscape as opposed to the separation of single functions into discrete activity zones. Tsakalos (1995: 63) notes that the MFP enables us "to focus on complex contemporary Australian urban concerns in the areas of economic restructuring based on high technologies, environmental management and social equity". The ongoing redefinition of the basic dimensions involving technology-environment-humanity, and the eventual physical realisation of this MFP concept, continue to unfold.

The technological advances associated with the Information Age are anticipated to lead to a redefinition of distance, to significant reductions in locational dependence, and a redistribution of activities and functions across the spatial dimensions of future cities and regions. On the other hand, the resultant ability to disperse production, will facilitate a move away from high cost urban centres and reduce energy consumption and transport costs. These outcomes may

provide some answers to our current urban problems, but as Hall (1998) notes, it will not result in the end of the traditional city. Whatever the case, it will result in significant changes to the way in which we plan our cities and regions. Clearly there will be increasing linkages developed between the city and its region. This also raises the question concerning an appropriate spatial unit for planning, management and administration that can represent the interests of the urban areas as well as the surrounding regional hinterland. This notion is explored in further detail in Section 5.4.

As economies are transformed and knowledge becomes the defining and driving asset in future economies, the economic imperative will remain as a dominant societal goal. However, if we move further towards Ellyard's Planetism paradigm which appears likely, the ecological imperative will continue to grow in importance to the point where future societies will also acknowledge it as a priority planning objective. This trend has already commenced in both the public and private sectors as previously noted. Sustainability imperatives for governments at the international and national levels have been identified in Sections 1.2 and 1.3, and in relation to the private sector in Section 1.4.2b. As noted, sustainability and quality of life issues have in recent times assumed increasing importance, both in the developed and developing regions of the world. In an Information Age environment, it is anticipated that they will assume increasing importance.

b. Implications for planning practice

Ellyard (1998) pointed out that crossing the millennial threshold presented a number of intellectual challenges as we had to that date almost exclusively stopped our thinking at the year 2000 with virtually gave little thought or focus beyond that point. He notes that many people see an opportunity now, to review existing institutions and organisations.

At the global level, we are increasingly dealing with a borderless world where the nation state has diminished relevance. Because planning has principally been a dominant function of governments, its future role, scope and functions need to be reassessed against these changes (Blower, 1997; Healey, 1997). Healey considers that the planning systems of most western countries were designed to accommodate integrated and self-contained local economies and societies and not the open and globally reaching relationships of today's communities. She further considers that this traditional approach of planning governance, where the state could be relied upon to 'take charge' and 'control' spatial organisation and location of development, is at odds with the "current interest in the combination of flexible enabling and regulatory governance which permeates much current thinking about public policy" (Healey, 1997: 4/5). Friedmann (1997: 218) provides additional support to this view when he states that "the world is rapidly moving from an era dominated by the nation-state to a multi-level system of global

governance (of) at least five levels: global; multi-national; national; regional; and local". He further notes that in the course of this transition that local governments of major city-regions become increasingly important in guiding their own development.

Graham and Marvin (1996: 339) also support this position, noting that with respect to the influence of telematics we are witnessing "different approaches to urban governance as well as a proliferation of new proactive strategies attempting to shape the economic, social, physical and environmental development of cities (*that is*) linked with the erosion of the power of nation states (*leading*) local and regional governments to assume much more active roles in trying to shape urban development". Kemmis (in Forward to McGinnis, 1999) sees this devolution of authority from the national level downwards as an opportunity to build the capacity of the organic region to operate within the global and continental context.

Toffler and Toffler (1994: 82) present a somewhat deterministic position, commenting, "we are living through the birth pangs of a new civilisation whose institutions are not yet in place". They predict a restructuring of governments from global to local in order to function in the evolving Third Wave world. They also see a need to plan for institutions based on post-bureaucratic and post-factory models. Castells and Hall (1996: 477) also note "that the informational economy seems to be characterised by new organisational forms. Horizontal networks substitute for vertical bureaucracies as the most productive form of organisation and management". Likewise, Healey (1997) sees the requirement to develop new ways of understanding the dynamics of urban and regional change, which in turn can lead to new ways of thinking about the institutional design of governance, involving the design of planning systems and planning practices. Hence we are witnessing the emergence of new challenges for the design of institutional mechanisms with the capabilities to address these emergent challenges in innovative partnership arrangements between governments, the private sector and the community. This trend towards cooperative arrangements for management will require innovative models for the conduct of coalitions, particularly in the tasks of consensus management and decision-making.

This brings into question the issue of community engagement and citizen participation throughout the entire planning process, particularly in regard to the nature and the degree of the participation. It also raises the question of future citizen representation in political decision-making, including the issue of part/self representation. Existing evidence suggest that different forms of governance are likely to arise in response to these developments. Friedmann (1998: 252) for example, speaks of a civil society that "carries a heavy freight of political meaning in a world that seems to be moving, however slowly, towards a more inclusive, participatory model of democracy". Consequently, different planning processes will also be developed in this

regard, and these will differ from those of the past and will almost certainly require planners to operate in this more inclusive and participatory model of governance. Community engagement and citizen participation in the political decision making process is expected to undergo significant change given the potential array of advances in telecommunication technology which will potentially facilitate direct participation and representation. This scenario is perhaps best summed up by Frissen who identifies the following political-administrative tendencies that may be related to information and communication technologies (ICT) developments. They include examples such as:

1. deregulation: making less (detailed) interventionist rules and regulations;
2. creating independent agencies: giving independent (private and public/private) bodies responsibilities to implement and sometimes develop public policy;
3. privatisation: contracting in or out activities usually performed by government bodies;
4. governing at a distance: dismantling interventionist policies and regulations and accepting societal self-steering and self-regulation in various political domains;
5. co-production of policy: creating policy networks of societal and government actors to produce policy; and
6. informatisation: using ICTs to organise and reorganise government and public administration, in the fields of service delivery, policy-making, political debate and deliberation (Frissen in Loader, 1997: 116).

Frissen (1997: 119) sees politics developing a "broker-politics" style in which governments play more of an organising and procedural role in a fully committed and participatory environment. He considers that it is moving towards a "depoliticisation of politics (*where*) politics is directed no longer primarily towards the outcomes of policy-making arrangements, but increasingly towards the (democratic) qualities of structures and procedures of social decision-making". However a somewhat contrary view is presented by Lenk, who contends that we should reconsider the classical functions of the nation-state especially in regard to public safety and justice issues. Whilst acknowledging that ICTs may be undermining this traditional role, and in light of what he sees as a possible erosion of traditional functions of the welfare state, he argues that we need to consider regulation over the design and use of our technological artifacts (Lenk, 1997).

Within the context of these global and technologically related changes, characterised by their continuing rapid, ubiquitous and incremental nature, addressing those societal and environmental elements bearing the brunt of this change remains the central thematic core of planning. However there is a clear need for the development of enhanced theories and practice in the fields of urban and regional management as well as for the consolidation of the recently emerging theories in the various areas of environmental planning. This needs to occur within

revised (perhaps new), planning and management paradigms, particularly at the regional level, or more precisely, the relevant community-of-interest level.

1.5 DEFINING THE RESEARCH AREA

1.5.1 Directions for Research

The forgoing discussion has raised some important questions. For example, did the global philosophies of cooperation subsequently find their way into lower level government policy and management practice for regional landscapes, and if so, what degrees of cooperation were achieved? It would also be informative to learn what has happened to the field of "environmental planning" since its promotion by the WCS in 1980, and earlier in the Australian context, by Howson in 1972. Questions such as these suggest the need for research to establish the appropriateness of a number of principal foci shown previously to be associated with the field of environmental management, namely, the **scale** of activity, the **method** of management and the **organisation** of the approach. Experience in both global and national environmental management, has suggested a need for a *cooperative approach to planning activity at subnational levels*. Essentially, the adoption of a proactive form of management for sustainable outcomes at subnational (regional) levels through a cooperative planning approach, will require the involvement of local government in collective local and regional arrangements. There also needs to be a rethink of the applicability of traditional forms of planning to address these new sets of challenges within a rapidly globalising world.

The discussion on a global perspective for an integrated cooperative subnational planning focus has noted the strong international level of advocacy for such an approach that emerged from the early 1990's onwards. There was also an overriding consensus that sustainability strategies should be implemented directly through regional and local planning. This was supported by the outcomes of the 1992 Earth Summit. Whilst the Summit's outcomes were disappointing to many, it did give rise to what are now growing calls for greater delegation of responsibility to the subnational level, particularly to the local government level - the level where human needs, activities and actions have a direct potential to produce undesirable environmental impacts. However, the previous discussion also acknowledged the existence of serious inadequacies and the constraints of institutional arrangements for effective environmental management at national levels. It noted the need for institutional reforms, involving the introduction of institutional transboundary cooperative mechanisms, including the establishment of collaborative policy forums which could bring together stakeholder representatives from government, business and industry, indigenous people, environmental groups and other community interests.

In the wake of these consistent and persistent arguments for a cooperative subnational planning approach, there remains some considerable degree of confusion and ambiguity within the literature regarding the precise nature of these advocated approaches to environmental management, namely in terms of the scale, method and organisation of the feasible and suitable approaches.

Very little attention has been given to differentiating between the most appropriate subnational scales for the focus of these efforts. Whilst there have been increasing calls for the planning and management focus to embrace the subnational level, most commentators appear to have merely accepted the existing institutional arrangements and subsequently focused on an undefined local scale, with an assumed general correlation to the local government level. Likewise, they have readily articulated an ill-defined regional scale for proactive management activities and actions.

The reviewed literature has been quite specific as to the scale of references to the subnational level, namely the "local" or "regional" scales, thus leaving no doubt that the "state" or "provincial" levels of government are not the argued focus for attention. However these latter levels of governance cannot be overlooked, particularly in the Australian context, given the nature of the Australian constitution. Never-the-less, clarification needs to be sought as to whether these calls for regional and local scales of approaches actually embrace new subnational levels of governance, management and planning or are they advocating for the adaptation of existing ones?

In regard to the advocated **method** of management, the chapter has demonstrated support for a planning approach. The potential for a planning approach to make a contribution towards addressing national environmental issues such as the key SoE issues was also acknowledged. However, there is some degree of confusion in the literature concerning the nature and specifications for this call for a planning approach. For example, in most developed countries and in many developing ones, there already exist a planning system, with its associated legislative base, administrative system and procedures. Whilst this traditional planning system focuses principally on the statutory regulation of land use and economic activities, it needs to be established if it has broader relevance and application to the emergent environmental management requirements. The question arises then, as to whether the call is for the establishment of a new planning approach, or for the adaptation of traditional planning.

The call for a planning focus has also been accompanied by a call for a stronger interventionist approach to achieve the desired outcomes of sustainable development. This raises the question as to what degree of intervention would be acceptable, and specifically, what would be the

relationship between the adopted interventionist planning system and the responsibility for plan implementation. Further considerations will need to be given to whether the conservation and development imperatives can be linked within a planning process operating within a sustainable development paradigm?

In terms of a management process that has the potential to achieve a range of community objectives, planning has received increasing recognition as an opportunity in this regard, albeit not well understood. This is evidenced from the wide ranging forms of planning that have been advanced in the literature, ranging from land use planning, development planning, human settlement and urban planning, landscape planning, integrated planning, environmental planning, and more recently, bioregional planning. It is also noteworthy to acknowledge that in recent times the philosophical connection has been made between the requirements to link social, ecological and economic imperatives within the planning process. This prompts the query as to what developments characterise the contemporary field of "environmental planning"? Besides the emergent field of environmental planning, what role and opportunities are there for other recent forms of planning approaches advocated in the literature, particularly bioregional planning? Will these new forms of planning overcome the constraints and shortcomings of traditional planning?

In a broader sense, questions need to be raised as to whether the traditional planning approach is the only means of policy development, and if it is not, what relevance are other forms to cooperative subnational environmental management?

In terms of the **organisation** of the management approach, there have been continual calls for greater degrees of cooperation, specifically a cooperative planning approach. In view of the preceding discussion, to what degree did governments and management agencies embrace cooperative approaches and how successful have they been in managing environmental issues at the regional level? In recent times, these calls have moved from advocating cooperation at the initial end of the decision-making spectrum, towards cooperation at the "sharper" end that embraces the commitment to action. As previously noted, effective cooperation has been achieved for a range of activities involved in the "plan making" phase, BUT it has been less successful for "plan implementation" commitments. This sharper focus now places greater emphasis on such questions as to what precisely does "cooperation" entail? What shared arrangements are involved in cooperative agreements and if they are to extend to implementation, how are they enforced, (ie what degree of accountability is there for the partners in the cooperative venture)? What recognition must be given to the primacy of individual sovereignty? Can it be ignored? What degree of loss of sovereignty does cooperative activity entail, and consequently, would it be tolerated by the cooperating partners?

Ife (1995: 197) reminds us that "the cooperative ethic is more likely to flourish at international level if there is a solid foundation for it at the community level".

What are the most appropriate **scale**, **method** and **organisation** of approach with which to address the pressing and emergent environmental challenges through an integrated environmental management approach? International and national experience has shown that research needs centre specifically on three foci, namely:

- a subnational (regional) approach - ie regional scale;
- a planning approach - ie the management method; and
- a cooperative approach - ie the nature of the organisational arrangement.

This study will seek to investigate the proposition that emergent environmental challenges can be addressed through a cooperative approach at the regional level from within the framework of traditional planning operating within the context of the existing planning process.

1.5.2 The Research Question

The three themes adopted for analysis that have emerged from the subsequent discussion as influential components affecting environmental management include:

1. **Operating at regional scale:** the regional approach is an appropriate scale for the planning and management required of contemporary environmental issues;
2. **Adopting a planning approach:** a broad based holistic environmental planning approach utilising a planning process capable of engaging all legitimate stakeholders, and consistent with evolving democratic philosophies, providing opportunities for greater degrees of public input into the planning process; and
3. **A cooperative organisational arrangement:** an appropriate organisational mechanism for undertaking the planning tasks and for implementing the agreed plan or policies, accounting for the changed philosophy of democratic governance and for engaging evolving partnerships between the public and private sectors and the community-at-large with strong horizontal and vertical linkages.

How can such cooperative regional planning occur in an era of ongoing public sector reform, leaner governments and calls for greater degrees of community participation? What are the opportunities for deriving alternative planning and environmental management models and systems that embrace a cooperative management approach whilst addressing the interrelated planning and environmental resource management issues of concern at the regional level?

Figure 1.4 summarises the framework through which an operational research question emerges from these three themes. The challenge of the research process is to relate theory and research in such a way that questions are answered (Bouma, 1996). The conceptual framework for this study's research approach is outlined in Figure 1.4. The operational research question adopted in this study, and intended to shed light on this broad field is:

Can a voluntary cooperative coalition of existing local authorities within a river catchment manage regionally significant environmental issues through traditional planning frameworks?

CENTRAL RESEARCH FOCUS

The central research focus draws together the three principal research themes of appropriate **scale, method and organisation** for a *cooperative approach to planning activity at subnational levels*. This involves an exploration of the opportunities for cooperative planning and management for sustainable outcomes at subnational levels, essentially involving local government in collective regional arrangements. The research focus also embraces the applicability of traditional forms of planning to the emergent environmental challenges within a rapidly globalising world.



MACRO RESEARCH ISSUES and ASSOCIATED QUESTIONS

1. **SCALE: Addressing environmental issues at the subnational level.**
 - (i) **Definitional Questions:** *Can the subnational level be confirmed at regional and local scales? What is the relationship between the collective local level and the traditional regional scales of planning and management? How can regional significance be determined?*
 - (ii) **Operational Questions:** *What is the nature of the emergent regional environmental management challenges? Is this an appropriate level to address these emergent environmental management issues? Are some subnational environmental management issues beyond the abilities and capabilities of individual local government to address?*
2. **METHOD: Appropriateness of traditional planning and management responses.**
 - (i) **Definitional Questions:** *What is understood by the terms 'planning' and 'traditional planning'? What are the core elements and characteristics of the traditional planning paradigm? What are the key elements of the traditional planning process? What is the nature and scope of traditional planning practice?*
 - (ii) **Operational Questions:** *What alternative response options are available to governments to address the environmental management issues? What distinguishes the traditional planning method from other forms of management? How did traditional planning respond to the recent environmental management challenges? Is the traditional planning approach too restrictive philosophically, too narrowly focused, and not well understood, to achieve a higher degree of acceptance by those responsible for environmental management and policy development? What has been the response from allied and parallel fields and disciplines to traditional planning?*
3. **ORGANISATION: Achievability of the cooperative planning approach**
 - (i) **Definitional Questions:** *What are the principles of cooperation? What is the scope and nature of cooperation amongst institutions associated with the functions of planning and management? Are there variations to the cooperative effort established between institutions and community organisations?*
 - (ii) **Operational Questions:** *What formal arrangements exist for collective local cooperative arrangements? Is institutional cooperation achievable at the local government level, horizontally between individual local authorities and the community, and vertically between different levels of government? What models are available to achieve the degree of cooperation required? Can a cooperative planning approach provide an alternative to conventional past approaches involving the creation of separate or special purpose bureaucratic (permanent or temporary) responses? What level of political support is necessary to achieve successful cooperation in policy/plan implementation?*



RESEARCH QUESTION

Can a voluntary cooperative coalition of existing local authorities within a river catchment manage regionally significant environmental issues through traditional planning frameworks?

Figure 1.4: Conceptual Framework for Research Approach

The nature of the relationship that *cooperative planning at regional scale can positively address regionally significant environmental management issues through voluntary cooperative coalitions of local authorities exercising traditional planning frameworks in a river catchment* is schematically illustrated below in Figure 1.5.

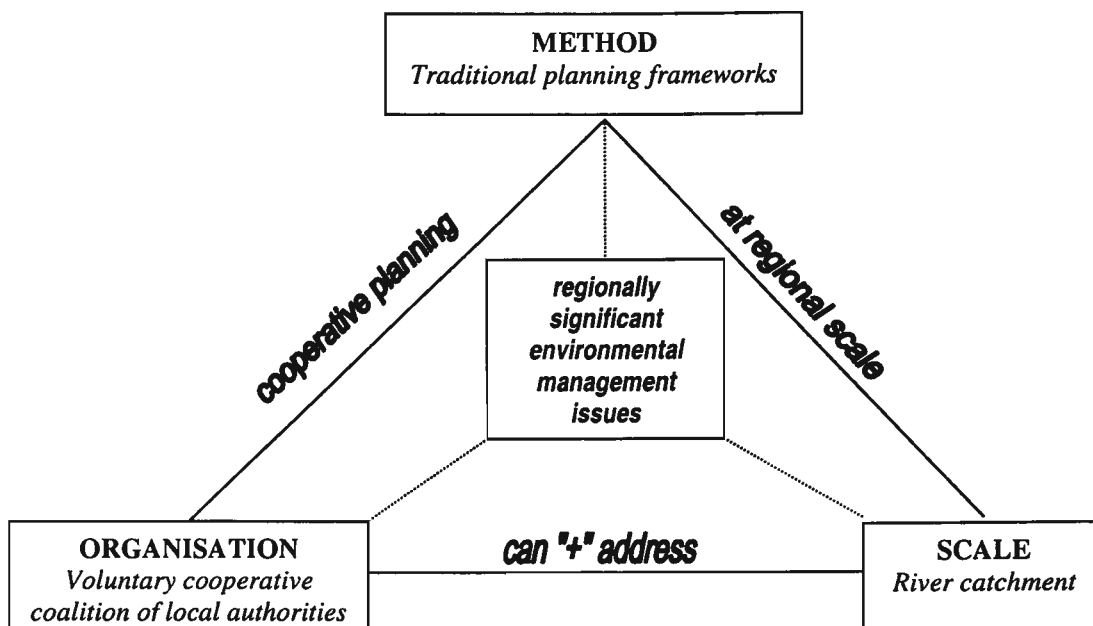


Figure 1.5: Schematic Form of the Research Question

The research question firstly implies that it is possible to forge a voluntary working partnership between a core group of principle stakeholders – ie a group of local authorities in a major river catchment. The second implication is that this core group will operate cooperatively within the framework of the existing statutory and associated planning process, involving both the plan making and the plan implementation phases. Thirdly, it implies that it is possible to develop a corporate view amongst this catchment scale stakeholder group, of the regional environmental management issues of importance, leading to cooperative action for their appropriate management through the statutory and associated planning process. This in turn fourthly implies that these stakeholders are capable of collectively focusing at the catchment scale on issues of regional and catchment significance, above the local issues that would be expected to attract their attention under normal circumstances. This implication has particular relevance to local government, who historically in Queensland, come from a culture of self interests, significant authority within their territory assigned under the original *Local Government Act 1936* as amended, and with considerable delegated power from the State government.

The fifth implication is that it is possible to address the contemporary environmental management issues of regional and catchment significance through the traditional spatial planning processes of local government, supplemented by the policy planning processes of state agencies. Additionally, the research question implies (sixthly), that these cooperative catchment

scale undertakings could occur within the context of broader based and more strategically orientated planning endeavours and be consistent with the other overarching national and subnational environmental management initiatives.

The seventh and last implication suggests that it possible for this core group of local authorities to develop and operate within a broader planning and management coalition involving other major stakeholders who represent a diverse range of interests within the river catchment. This latter group of stakeholders includes the other policy decision-makers and resource managers operating within the catchment, representing the other two levels of government, commercial and business interests, and the various community interest groups. These arrangements establish a cooperative initiative with a two directional approach for interaction and action. Horizontal linkages are established from the interactions between the local authorities whilst the grouping of interests that include the different levels of government, the community and non-government sectors, form the vertical linkages.

In addressing the research question, this study will:

1. assess a working model of a cooperative local government coalition for catchment based planning and management;
2. investigate the nature of cooperative activities within this model with the intention of contributing to our understanding of cooperative planning activity at the regional scale;
3. examine the appropriateness of traditional planning approaches to the management of regionally significant environmental issues through these collective processes; and
4. suggest how the cooperative planning approach to environmental management at the subnational level could be further developed and enhanced.

Testing of the research question can be expressed as the assessment of a series of indicators that serve to demonstrate what is essentially "going on". The indicators, or outcomes, of interest with respect to the collective activities of the local authority stakeholder group include:

- the nature of the voluntary cooperative effort;
- the degree of cooperation;
- the reason for the cooperation;
- examples of subsequent flow-on cooperation;
- the nature of the corporate culture developed;
- evidence of foregone or lost traditional sovereign rights;
- the nature of the partnerships developed with the broader range of stakeholders;
- the achievement of a planning "bridge" to span across the traditional planning frameworks of individual local authorities;

- the successful identification and agreement on the regionally significant issues in the catchment;
- the acknowledgment of the environmental issues of regional significance within the traditional spatial planning frameworks;
- arrangements for shared decision making;
- mechanisms adopted for policy development and adoption;
- modus operandi for dealing with potential conflict;
- relationships with other regional groups and higher orders of government;
- ability to maintain a strategic focus;
- support for the cooperative process including resources allocated; and
- the level of political and professional commitment to the initiative.

There are a number of significant limitations to the testing of this research question through deductive reasoning and the more traditional research practices involving a quantitative approach. The constraints include:

- it is difficult to measure the outcomes particularly in the short term;
- the outcomes do not lend themselves to quantification and easy measurement;
- there are too many other variables at play and influencing the outcomes - these are uncontrollable and beyond the reach of this study;
- the overall planning and management process is multilayered and very complex - the task of unpacking it is beyond the scope of the study; and
- there are no standard models and too few similar cases that would lend themselves to a comparative study reliant on the quantification of consistent attributes.

The research question will be tested by a case study. This is described in the next chapter, together with an analysis of qualitative research approaches and case study research methodology.

2.0 THE CASE STUDY RESEARCH - Methodological Underpinning & Design

The previous discussion has raised questions concerning the most appropriate **scale, method and organisation** of approach with which to address integrated environmental management of the pressing and emergent environmental challenges particularly those at the regional level. It was shown that international and national experience has identified a need to research the utility of a *cooperative approach to planning activity at subnational (regional) levels*. This study sought to investigate the proposition that emergent environmental challenges can be addressed through a cooperative arrangement of local government operating at regional scale from within the traditional planning framework and in the context of the existing planning process.

This proposition was further extended by the recognition of the drainage basin or river catchment as a principal natural spatial unit at regional scale within which voluntary cooperative planning and management activity can occur. The proposition also accepts that there is very limited opportunity for reorganisation of existing administrative and institutional arrangements that consequently maintains primacy for environmental planning with local government. This led to a research interest in collective planning and management activities for groupings of local authorities as opposed to single or unilateral activity within these regional catchments.

These considerations led to the framing of the following operational research question for this study:

Can a voluntary cooperative coalition of existing local authorities within a river catchment manage regionally significant environmental issues through traditional planning frameworks?

The research extended to include the consideration of the applicability of traditional **methods** of management, particularly the forms of traditional planning to address the range of management challenges of significance at the regional **scale**. In terms of the cooperative **organisational** responses, this research project sought to explore the establishment of collaborative policy forums that could bring together various stakeholder representatives from within the catchment community across the public and private sectors.

The following sections discuss the overall research approach that was adopted for this study in response to the research question whilst accounting for the theoretical considerations discussed below. It provides a general overview of the research methodology adopted, case study selection, research methods employed, data analysis techniques utilised, theory development, and other matters pertinent to the satisfactory completion of the study.

Essentially the adopted research method was a longitudinal participatory action research study involving a single case study. It utilised a qualitative research paradigm and approach involving three main research strategies. The first comprised an *intrinsic* case study that represented at the commencement of the study, a unique as well a revelatory case where the circumstances were such that an opportunity to study such a case had not previously presented itself. The second research strategy involved a longitudinal study that sought to address the research questions and associated changes over a period of time. The last research strategy related to grounded theory which provided a disciplined and organised approach for a comparative analysis of the case study data in order to discovering theories, concepts, hypotheses, and propositions directly related to that data. All of the main research strategies incorporated a participative inquiry approach that was significantly focused on the researcher's involvement with the planning and management activities of the case study.

2.1 RESEARCH PARADIGM AND APPROACH

The quantitative approach, the more classical scientific paradigm involving either a positivist approach (verification of an a priori hypothesis), or the post-positivist approach (falsification of an a priori hypothesis) did not offer a suitable research design for this particular study. Such approaches rely too heavily upon a scientific method that attempts to produce general laws to explain human behaviour. Instead, this study adopted a qualitative research approach. Marshall and Rossman, (1999: 1) note that "qualitative research genres have become increasingly important modes of inquiry for the social sciences and applied fields such as education, regional planning, nursing, social work, community development, and management". The study is multimethod in focus and takes what Denzin and Lincoln (1994) describe as an interpretative, naturalistic approach to the subject matter. This involves a study of things in their natural setting with the intention of ascertaining the meaning that people bring to them. It utilises a research strategy that combines a wide variety of interconnected methods, empirical materials, perspectives and observers, seeking to obtain the "best fit" on the subject matter, (Denzin and Lincoln, 1994; Denzin and Lincoln, 1998a,b,c; Neuman, 1994; Taylor and Bogdan, 1998). The eight distinguishing characteristics of qualitative research and researchers have been summarise by Marshall and Rossman (1999: 3), quoting Rossman and Rallis (1998), as:

Qualitative research

1. takes place in the natural world
2. uses multiple methods that respect the humanity of study participants
3. is emergent and evolving rather than tightly prefigured
4. is fundamentally interpretative

Qualitative researchers

5. view social phenomenon holistically
6. systematically reflect on their own roles in the research
7. are sensitive to their personal biography and how it shapes the study
8. use complex reasoning that moves dialectically between deduction and induction.

To Guba and Lincoln (1998) questions of method are secondary to questions of paradigm. They cite four possible competing paradigms of qualitative inquiry, namely positivism, postpositivism, critical theory and related ideological positions, and constructivism.

The research paradigm that underpins the qualitative research approach of this study can best be described as a constructivism (interpretivism) paradigm. This is what Taylor and Bogdan (1998) describe as 'phenomenological' - the understanding of social phenomena from an actor's own perspective and examining how the world is experienced. This approach takes a practical orientation and focuses on the issue of social integration, and is concerned with how people manage their affairs, how they get things done, how they interact and get along with each other. It is "the systematic analysis of socially meaningful action through direct detailed observation of people in natural settings in order to arrive at understandings and interpretations of how people create and maintain their social worlds" (Neuman, 1994: 62). To Taylor and Bogdan (1998), the phenomenological perspective is tied to a broad range of theoretical frameworks from the social sciences, for example, symbolic interactionism, which provides primary guidance on the social meanings people attach to the world around them. Quoting Blumer, they acknowledge that symbolic interactionism rests on three basic premises, viz:

1. people act towards things and other people on the basis of meanings that these things have for them - they just do not react to stimuli. The meanings determine actions.
2. meanings are not inherent in objects but are social products that arise during interaction. Additionally, people develop shared meanings of objects and people in their lives they learn to see the world from other people.
3. we attach meaning to situations, others, things and ourselves through a process of interpretation.

With the exception of positivism, the other paradigms are still very much in their formative stages with as yet no universal consensus on their definition, meanings and implications (Guba and Lincoln, 1998). Whilst this might be so, Schwandt holds that all proponents on the constructivism/critical theory side of the qualitative research spectrum share the common goal of seeking to understand the complex world of lived experience from the point of view of those who live in it, ie from the emic point of view (Schwandt, 1998). Constructivists believe that to

understand the world of meaning, one must interpret it. This involves people, in particular places, at particular times, fashioning meaning from events and phenomena through prolonged, complex processes of social interactions involving history, language and action. The researcher, through interpretation, develops a construction of the subjects under study. Thus concepts and ideas are invented, and knowledge is a constructed experience, as opposed to being discovered under the positivism/postpositivism paradigms. Advocacy and activism are key concepts within this paradigm. This stance also serves to stand the newer perspectives on qualitative research apart from the traditional approaches. The traditional forms of qualitative research differ from the postmodern assumptions in that they maintain that:

- knowledge is subjective rather than being the objective truth;
- the researcher learns from participants to understand the meaning of their life but should maintain a certain stance of neutrality; and
- society is structured and orderly (Marshall and Rossman, 1999: 4)

Denzin and Lincoln (1994), describe five historical moments which qualitative research transects. The postmodern or present moment (1990 to present) is characterised by qualitative researchers who do more than observe history, they play a part in it, ie the research accounts will now reflect the researchers direct and personal accounts of involvement. They claim that qualitative research can no longer be viewed from within a neutral, or objective, positivist perspective, and see that "more action, activist-oriented research is on the horizon, as are more social criticism and social critique" (Denzin and Lincoln, 1994: 11). This is particularly the case for the constructivism approach, where, from an epistemological point of view, the investigator and the subject of investigation are assumed to be interactively linked so that the 'findings' are literally created as the investigation proceeds. In the constructivism case, the conventional distinction between epistemology and ontology disappears as the latter considers realities as apprehensible in the form of multiple intangible mental constructions, socially and experimentally based, local and specific in nature, and dependent for their form and content on the individual persons or groups holding the constructions. It follows that the methodological premise for the constructivism paradigm would suggest that individual constructions could only be elicited and refined through interaction between and amongst the investigator and the subjects (participants) of the inquiry (Guba, 1998).

Such approaches require qualitative researchers to uphold a number of what Marshall and Rossman, (1999) refer to as injunctions that are embedded into these newer perspectives on qualitative research, namely:

- researchers must examine closely how they represent the participants in their work;
- they should carefully scrutinise the complex interplay of personal biography, power and status, interactions with the participants, and the written word; and
- they must be vigilant about the dynamics of ethics and politics in their work.

The postmodern stance to qualitative research has the opportunity to utilise a number of approaches, all of which have a change of existing social structures and processes as a primary purpose (Marshall and Rossman, 1999). These include, narrative analysis, action research, critical ethnography, participatory action research, and feminist research. As previously noted, the researcher's intrusion into the research setting is not an issue in action and participatory action research, as these approaches are fundamentally interactive and the researcher's presence is considered an integral part of the setting. Action research takes an activist, critical and emancipatory stance, often using the research process as an empowering process in an organisation or the community. In this approach, the action research is fundamentally determined by the participants or the practitioner, for their own use, and not necessarily for a scholarly cause of research. In this regard, "action research challenges the claims of neutrality and objectivity of traditional social sciences" (Marshall and Rossman, 1999: 5). It involves a full collaborative approach by all participants and is often focused on seeking change to the organisation, institution or community as a result of the research.

The qualitative research associated with this study involved an interpretative naturalistic approach. It utilised a research strategy that embraced a constructivism (interpretivism) paradigm to underpin the study. As a phenomenological study, it incorporated an applied research component that provided the researcher with a direct and personal involvement with the research setting. The action research element of this applied research also sought to provide some immediate feedback to the study's participants in order to improve the situation relevant to the research topic in the research setting. Consequently, action research was utilised with some elements of participatory action research, notably for dealing with the reciprocity issues.

2.2 THE TEST CASE OPPORTUNITY

2.2.1 Genesis of the Logan-Albert Study Initiative

An opportunity to test the conceptual model of local authority cooperation within a regional scale catchment that is embodied in the research question arose as a result of interest shown by Logan City Council in the late 1980s to address emergent management issues related to the Logan River. The river formed a border to the city but had a much broader catchment both upstream and downstream of the city. The research focus and operational conditions came together when the Council had earlier received a Watercourse Management Strategy report for the Logan River and five principal creek tributaries within its city area. Noting that the Council alone had no direct bearing on management issues for that portion of the Logan River forming one of its boundaries, nor for any part of the river's catchment for that matter, the report recommended the adoption of an "Adjacent Shires Cooperation Policy", (Landscape Planning

Group, 1985: 70). In order for the council to implement its strategy, it was required to seek the cooperation of adjacent local authorities for the purposes of liaison on management matters. However, no such institutional arrangement existed at that time, nor were there any precedents for such an arrangement¹. Subsequently, under the sponsorship of the Logan City Council, the embryonic framework for cooperative dialogue and activity was established towards the end of 1988 through the establishment of a voluntary cooperative coalition between four of the five principal local authorities in the Logan River catchment.

The institutional framework of the case study analysed in this thesis was the voluntary cooperative coalition, known as the Logan and Albert River Management Coordinating Committee (LARMCC)². It included the local authorities of Beaudesert Shire, Boonah Shire, Redland Shire, Gold Coast City and Logan City. A number of state government agencies were also involved in the activities of the LARMCC in a number of ways. These activities are described in detail in Chapters 7 and 8.

2.2.2 The Logan-Albert Catchment

The geographical research setting for this study is illustrated in Figure 2.1. This map depicts the eighteen Queensland local government areas that comprise the South East Queensland Regional Organisation of Councils (SEQROC) set in the SEQ region that forms the regional context for this study. Also depicted are the boundaries of the subregional planning groupings of these councils in the form of the four Regional Organisation of Councils (ROCs).³ The principal physical and socio-economic characteristics of the catchment and its history and geographical setting are described in Chapter 7 and Appendix 7.1.

2.2.3 Establishment of Cooperative Activities

Subsequent to the preliminary meeting to discuss cooperative opportunities that was convened by Logan City Council in October 1987, it was agreed to formalise a joint coordinating process for the planning and management of the Logan River in the form of an organisation to be known as the Logan River Management Coordinating Committee (LRMCC). The inaugural meeting of the LARMCC was held on 8th March 1989. The LRMCC was endorsed as a sub-committee of the Southern Regional Organisation of Councils (SouthROC) in November 1992. In April 1995 the LRMCC resolved to consolidate their area of interest with the addition of the Albert River

¹ Not-with-standing the provisions for joint local government arrangements that existed under the *Local Government Act* 1936 as amended (discussed in Section 4.2.3[a]). This issue is addressed in relation to the case study in Chapter 5.

² It was originally established as the Logan River Management Coordinating Committee (LRMCC) but changed in April 1995 in order to include the Albert River. For simplicity, the acronym LARMCC will be used throughout the report to refer to both, unless otherwise stated.

³ The nineteenth local authority depicted (Tweed Shire) is a New South Wales local government that has formally joined the SouthROC for the purposes of planning coordination.

catchment and the organisation became the Logan and Albert Rivers Management Coordinating Committee (LARMCC).

A Technical Support Group (LRTSG) was also established to service the LARMCC. This Support Group comprised officers from each of the five participating local authorities, together with technical staff from relevant state government agencies who exercised some management responsibility within the catchment.

The first Logan River Community Consultative Committee (LRCCC) was established in November 1993 to provide a mechanism for community participation in the catchment planning process. After it became inactive in 1995, a second LARCCC, which now included the Albert River catchment, was established in October 1998.

Appendix 2.1 documents a brief Chronology of coordinated management initiatives and activities for the Logan and Albert Rivers.

As an organisational structure, the LARMCC was established to provide cooperative management for the catchments of the Logan and Albert Rivers, the geographical setting for the study. Theoretical considerations related to the research setting are discussed in Section 2.3.

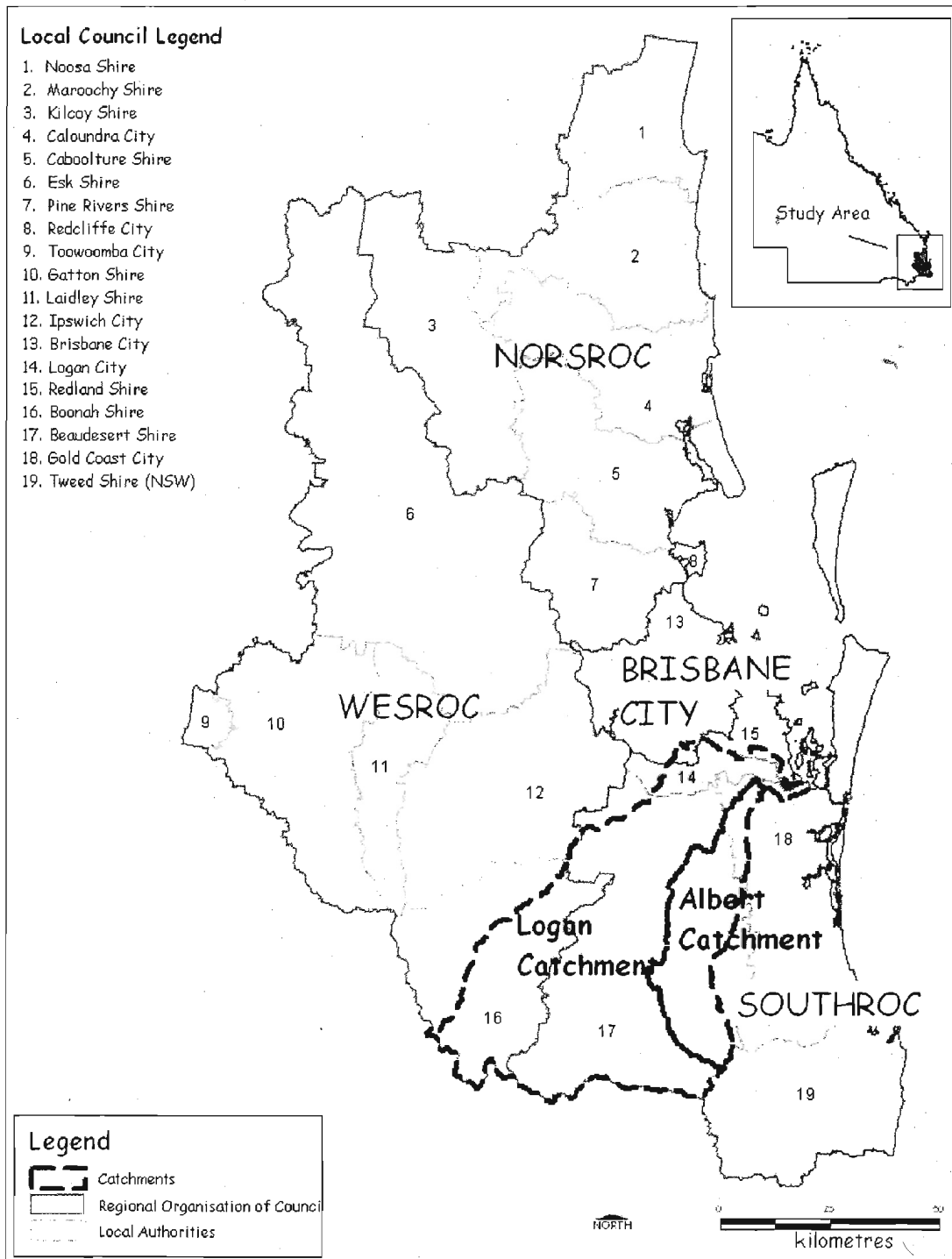


Figure 2.1: South East Queensland Regional Organisation of Councils (Logan and Albert Rivers Study Area)

2.3 THE LOGAN-ALBERT INITIATIVE AS A RESEARCH SETTING

2.3.1 Theoretical Considerations in Research Site Selection

Choosing the research site or setting is a global but fundamental decision taken early in the study that has the potential to significantly influence the conduct of the study. Whilst noting that the ideal research site is rarely attained, Marshall and Rossman (1999: 69) nominate four criteria, which determine a realistic setting, namely where:

1. entry is possible;
2. there is a high probability that a rich mix of the processes, people, programs, interactions, and structures of interest are present;
3. the researcher is likely to build a trusting relationship with the study participants; and
4. data quality and creditability of the study are reasonably assured.

Taylor and Bogdan (1998) confirm this view, arguing that an ideal research setting is where the researcher gains easy access, establishes immediate rapport with informants and gathers data directly related to the research interests. Crucial to the study's commencement is the successful negotiation of entry to a research setting. Marshall and Rossman (1999: 81) note that "the energy that comes from high personal interest (called bias in traditional research) is useful in gaining access". In this regard, they acknowledge the utility of a "gatekeeper" in an organisation through whom formal and informal negotiations can be facilitated. They also note the additional benefits from having an "insider" act as a sponsor for the study and who can assist in promoting the non-threatening nature of the researcher and the study in question.

On the question of the previously discussed "degree of participantness", Grinnell (1993) argues that the full participatory approach, in terms of limiting the research setting to an existing long term site, has certain advantages, namely: the existence of previous contacts and knowledge; trust relationships that already existed; no strain of entry; and no new subgroup culture to learn.

These are balanced by a number of perceived disadvantages such as: becoming too familiar with the setting and taking too much for granted; much that is natural and obvious to an insider might seem unusual and problematic to an outsider; existing relationships might hinder free disclosure; and if the group were to split, the researcher may be coopted and biased.

2.3.2 The Logan-Albert Research Setting

To some extent the previous comments were true at the time of establishing the research setting, namely the LARMCC structure. However, it is argued that there were far more advantages, (eg gatekeeper and sponsor phenomenon) than disadvantages that saw the project established. Taylor and Bogdan (1998) on the other hand, sound a word of caution on using a study that the

researcher is directly involved in, noting that in getting too close, there is the danger of seeing only one point of view. However, they also acknowledge that personal experience can be used as a resource for understanding the perspectives and expressions of others.

A significant divergence of this study from the conventional qualitative research study concerned the research setting and site. Essentially in this case, whilst a suitable setting in geographical terms physically existed, the site or organisational structure requiring investigation did not as previously noted, it had to be constructed. In fact it had to be established from the ground up without the benefit of a model or precedent at that time (ie 1989). This was the LARMCC and its associated elements that are fully described in Chapter 8. Consequently, this study became as much an investigation into the establishment of such an organisation as it was a study of the operation and activities of such a group. Within this setting, the principal focus of the study became the individual and collective grouping of local authorities, what Yin (1994) described as an embedded case study with multiple units of analysis (discussed in detail in Section 2.4.1). Consequently, whilst the individual representatives of the local authorities comprised the structures forming the research setting, in terms of the research question, the primary interest remained at the corporate level. In the first instance this was the LARMCC, and in the second instance, it was the individual constituent local authorities. This approach is supported by Taylor and Bogdan (1998) who note that in qualitative research methodology, the research is focused on settings and people in a holistic manner, and that people, settings or groups are not reduced to variables, but are viewed as a whole.

2.4 RESEARCH STRATEGIES

Marshall and Rossman (1999) cite a number of potential strategies that can be utilised for qualitative research. Those relevant to this study include the case study, grounded theory, and participative inquiry. The latter is embedded into the research methods and is described as a method of inquiry in Section 2.6. This study utilised the following main research strategies:

- the case study;
- the longitudinal study; and
- grounded theory.

2.4.1 The Case Study Inquiry

a. Theoretical Considerations

The most appropriate means to address a constructivism research paradigm, in most circumstances, including this study, is provided by qualitative research strategies. Marshall and Rossman (1999) argue that a case study strategy is particularly suited for studies focused on

society and culture, whether groups, a program, or an organisation, as it allows immersion in the research setting with the study resting on both the researcher's and the participant's worldviews. Yin (1994) notes that of the several options for social science research, including, experiments, surveys, histories, analysis of archival material, the case study is the preferred strategy when it satisfies three sets of conditions. These include, when "how" and "why" research questions are being posed, when the investigator has little control over events, and when the focus is on a contemporary phenomenon within a real-life context. Yin also cites situations where the case study is appropriate, namely: policy, political science, and public administration research; community psychology and sociology; organisational and management studies; city and regional planning research; and in the conduct of dissertations and theses in the social sciences.

In defining the case study inquiry, Yin (1994) contends that it must cope with technically distinctive situations where there are more variables of interest than data points, and must therefore rely on multiple sources of evidence, with data needing to converge in a triangulating fashion, and where it benefits from the prior development of theoretical propositions to guide data collection and analysis.

Stake (1994: 237) provides a three-fold classification of case studies, viz:

- *the intrinsic case study* - seeking a better understanding of a particular case and not necessarily because of its representativeness, nor its illustration of a particular trait or problem, or for theory building;
- *the instrumental case study* - provides insight into a particular issues or refinement of theory. The case itself is of secondary interest and provides a supportive role facilitating our understanding of something else. The case may be representative of others and the choice of case is made on the expectation of advancing our understanding of the other interest;
- *the collective case study* - a study of a number of cases jointly to inquire into a phenomenon, population or general condition. Choice of cases is on the expectation of gaining a better understanding and possibly better theorising about a larger collection of cases.

Case studies have advantages for conducting research on social groups, ie ones in direct contact with each other, with a shared identity, common activities or interests. Case studies also are useful designs for researching organisation and institutions in both the private and public sectors, including bureaucracies, studies of 'best practice' cases, policy implementation and evaluation, management and organisation issues, organisational cultures, processes of change and adaptation, etc, Hakim (1987). Yin notes the strong advantage of the case study in dealing with contextual conditions, especially in those studies of organisations where the group

membership and those outside might be constantly changing, (Yin, 1998). Researcher can become actively involved in the case study - eg actively working for the organisation. This presents a degree of conflict to the advice provided by Taylor and Bogdan (1998) in relation to the desirable degree of active participation for researchers conducting participant observations. Naturally under these circumstances, ethical questions come to the fore.

Yin points out the extensive range of potential data and data sources that can be utilised in a case study approach. These are discussed below in Section 2.6. He does however repeat his emphasise on the necessity for using the evidence in a "converging manner" (Yin, 1998: 232). This can be facilitated by the application of triangulation (see Section 2.7).

Figure 2.2 illustrates a four-way classification of case studies provided by Yin that is based on the recognition of two sets of distinguishing characteristics such as:

1. whether it is a single-case design as opposed to a multiple-case design; and
2. the degree of complexity of the unit of analysis (ie a holistic single unit of analysis as opposed to an embedded or multiple units of analysis).

	Single-case designs	Multiple-case designs
Holistic (single unit of analysis)	Type 1	Type 3
Embedded (multiple units of analysis)	Type 2	Type 4

After: Yin (1998: 241)

Figure 2.2: Basic Types of Case Study Designs

Yin (1994) emphasises the importance of adequately identifying and acknowledging the correct type of case study in order to achieve the most appropriate answers to the research question posed. He argues that the rationale for selecting the single-case designs could be when it represents one of the following:

- a critical case in testing a well formulated theory;
- an extreme or unique case; or
- the revelatory case (eg in the circumstances when an opportunity to study a case previously not available, presents itself).

The issue of holistic verses embedded case studies requires the recognition of the holistic nature of the case under study, whether the study for example will also include its sub-units or component parts. This latter situation acknowledges the embedded nature of the units of analysis that will be employed.

Yin (1994) also points to the necessity to ensure the correct alignment of the specific level of unit of analysis with the appropriate level of data collection source to ensure that the data will support the question being posed at that level. For example, an embedded (multiple unit of analysis) case such as an organisation, cannot be solely addressed with data related only to its component parts (sub-units), as these would only provide limited insight into a component part of the organisation and not the organisation as a whole.

b. Case Study Selection and Design

Yin's (1994) preconditions were met with the selection of the case study and its research setting. The investigation involved an *intrinsic case study* incorporating two levels - the first level with research participants (including elements of participatory action research) and the second level without direct participants involvement except as subjects (Stake, 1994).

This case study sought to achieve what Hakim (1987: 62) describes as "experimental isolation of selected social factors or processes within a real life context so as to provide a strong test of prevailing explanations and ideas". In this sense it was what Yin (1994) categorises as a 'revelatory' case. This primary case study was essentially a Type 2 in terms of Yin's previously described typology, (see Figure 2.2). This case study is fully developed and analysed in Chapter 8. In a physical sense, the basic unit of analysis (research setting) was the LARMCC and its associated structures. Its embedded properties are provided by the LARMCC organisation itself and its constituent member local authorities provide the framework for the multiple units of analysis. However, it is the operations of that organisation that are the primary focus in response to the central question of this study.

Case study selection was made in terms of the interacting sets of preconditions and prevailing conditions relevant to the establishment of the LARMCC. These included:

Preconditions

- a relatively large catchment containing a full range of rural and urban land uses from remote 'wilderness' type areas (eg World Heritage properties) to highly urbanised landscapes;
- a diverse catchment community reflecting different themes, issues, priorities, perceptions, and cultures;

- a catchment undergoing rapid change through urbanisation and other land conversion processes;
- a landscape experiencing a range of environmental management issues, challenges and existing and potential conflict;
- an example of overlapping artificial division of management and governance over the natural landscape;
- a mix of local authority and state government agencies with overlapping planning and management responsibilities;
- evidence of vague and confused institutional boundaries with ill-defined responsibilities; and
- existing cases of non-responsive decision-making.

Prevailing Conditions

- demonstrated need through a professional planning process to formal institutional recognition (ie adoption by Logan City Council of a resolution to accept the recommendations of the original report containing the Cooperation policy);
- a group of local authorities demonstrating a preference for improved management which included their direct involvement; and
- Councils prepared to commit initially to the cooperative proposal.

In terms of a research strategy, the primary case study was investigated as a longitudinal study. It also served to provide timely triangulation for the study. The considerations regarding its duration are discussed below, (Section 2.4.2).

The sampling plan for relevant data collection from the intrinsic case study included the following elements:

1. *Settings*: buildings and facilities in which formal meetings of the LARMCC, and its associated bodies (LARTSG and the LARCCC⁴ were conducted;
2. *Events*: the formal meetings of the LARMCC, LARTSG and the LARCCC; meetings with the senior planners group of the constituent local authorities; workshops; forums; River Week celebrations; school related events;
3. *Actors*: the constituent local authorities; to a lesser extent, the elected representatives, professional officers of councils and members of the various committees;
4. *Artifacts*: minutes of meetings; policy statements; town planning schemes; corporate plans; annual reports; technical reports; press releases; publicity documents; the web site; newspapers; logos.

⁴ LARTSG - Logan-Albert Rivers Technical Support Group; LARCCC - Logan-Albert Rivers Community Consultative Committee (see Sections 8.2.2b and 8.4.3b respectively).

2.4.2 Longitudinal study

Essentially the longitudinal study provides a means to address the question concerning 'change over a period of time' (Bouma, 1996). Studies involving the investigation of complexities of interactions amongst people and organisations, new programs, deeply held beliefs, and other organisational events require a long-term approach. Such settings and circumstances cannot be adequately explored via the 'snap-shot' approach of cross-sectional studies. Additionally, the inquiry may be examining unpredictable change processes. Consequently, an approach is required that provides the opportunity for a long-term engagement with the research setting and its participant group. Studies of the latter form are referred to as 'cohort studies', (or follow-up studies or panel studies), and are particularly suited for investigating casual relationships especially if they relate to change over time (Cohen and Manion, 1994).

One reason for adopting a longitudinal study approach can be due to their unique ability to identify what Hakim (1987) describes as the "sleeper effects", connections between events that are widely separated in time. Only in this manner can we discover the 'surprise' or the unexpected find - the serendipitous discovery.

Cohen and Manion (1994) note some potential problems related to the longitudinal study approach, namely:

- they are time consuming and expensive;
- the problem of sample mortality when participants drop out or refuse to cooperate, thus affecting the representativeness of the study;
- control (measurement) effect from constant interviewing with negative impact on the participants with consequential effects on the survey results; and
- organisational and logistical challenges associated with maintaining contact and data collection over a long time.

The requirements for a longitudinal study were amply met by the duration of the case study review period that spanned some 11 years of the research setting from its initial establishment to the end of 1999. It was previously noted that complex processes demand adequate time for exploration and that interactions and changes in particular, in belief systems occur slowly (Marshall and Rossman, 1999). Hence the long time frame for the research review period provided a unique opportunity in this regard. The three-year set term for local government elected officials, was to also influence the duration of the early individual phases. This will be discussed in detail in Chapter 8.

Table 2.3 provides an outline of the main phases of the research setting establishment and their operation. Appendix 2.1 provides a chronology of significant events and milestones relevant to the Logan-Albert initiative and the LARMCC. The phases identified in Table 2.3 relate to a Collaborative/Cooperative Planning model (CPM) that is introduced and discussed in Section 5.3.5 and then developed in terms of the case study in Section 7.3.

Table 2.1: Research Setting Phases

PHASE	PERIOD
Demonstration of Need	end 1985 to early 1989
Formative	early 1989 to early 1991
Gestation	early 1991 to early 1994
Consolidation	early 1994 to early 1997
Planning 'business'	early 1997 to early 2000
Implementation & Review	early 2000+

Subsequent experience with the case study has shown that none of these phases, especially the Formative and Gestation Phases, were predictable, nor were their completion a strict definable point in time. The temporal boundaries between these phases are 'fuzzy', ill-defined and in many instances, overlapped. Technically speaking, the complete research setting involving the full participation of all five local authorities from within the catchment was not achieved until November 1994 when Boonah Shire officially joined the LARMCC.

2.4.3 Grounded Theory

Grounded theory or emergent analysis is an 'inductive theorising' process (Taylor and Bogdan, 1998). The process is creative and intuitive as opposed to mechanical. It is probably "the most widely employed interpretive strategy in the social sciences today" (Denzin and Lincoln, 1994: 204). Layder (1993) acknowledges that formal theory must first proceed through and emerge from a substantive grounding in the data. The originators of the grounded theory approach (Glaser and Strauss) distinguished between substantive theory and formal theory. They note that substantive theory is developed for a substantive area from within the community, whereas formal theory is developed for a formal or conceptual area such as an organisation, authority and power and socialisation (Layder, 1993). Whilst both forms differ in terms of their generality, they are both generated from comparative analysis.

The grounded theory approach is a method for discovering theories, concepts, hypotheses, and propositions directly from the data rather than from a priori assumptions, other research or existing theoretical frameworks (Taylor and Bogdan, 1998). In practice, a grounded theory approach requires a separation of data from theory, ie a separation of statements that report data from statements that explain data (Seale, 1999). This should then lead to the generation of

theoretical categories including the construction of a theoretical language grounded in instances of data - all contributing to the generation of 'thick' saturated descriptions of considerable scope (Seale, 1999). The whole process involves the continual cycling back and forth between examination of the data and the construction of theory. In this sense it differs from many other research approaches which view data collection as a discrete and completely separate phase from data analysis, where collection must be completed first before analysis can commence (Punch, 1998). This cycle continues with subsequent data collection being guided by the emergent theoretical constructions. As an inductive process, it is potentially limitless but Seale, (1999), quoting Glaser and Strauss (1967), has proposed a pragmatic solution - what they have described as "theoretical saturation". It is described as the point where the researcher is satisfied that no further data can be gained from the widest and most diverse possible range of data categories - ie where an assessment is made that the data categories are saturated.

Taylor and Bogdan (1998) describe two major strategies for developing grounded theory, viz:

1. *Constant comparative method*: the researcher simultaneously codes and analyses data in order to develop concepts. By continually comparing specific incidents in the data, the researcher refines these concepts, identifies their properties, explores their relationships to one another and integrates them into a coherent theory.
2. *Theoretical sampling*: the researcher selects new case studies to examine according to their potential for helping expand on or refine the concepts and theory that have already been developed.

Subsequent work in this field has seen the emergence of guidance in the applied aspect of coding, although in reality it is acknowledged that they are refinements on the constant comparison method. Strauss and Corbin (1990) have proposed three distinctive methods to code data, viz:

1. *Open coding*: involves the breaking down of the data into discrete parts for close examination, comparison for similarities and differences, and questioning about the phenomena as reflected in the data. This process involves exploration and questioning of your own and other's assumptions about the phenomena, leading to new discoveries.
2. *Axial (or theoretical) coding*: this form is relevant in subsequent work involving intensive work with a single category to examine how it connects with other categories. It also seeks to explore the condition, context, action/interaction strategies and consequences of that particular category.
3. *Selective coding*: requires the identification of a single 'core' category with all others, including their properties, then acknowledged a subsidiary to the core. It is from this point that Glaser and Strauss's "fully fledged theory" emerges (Seale, 1999: 100).

Taylor and Bogdan (1998) quoting DeVault (1995) caution against taking Glaser and Strauss's grounded theory approach too literally. They point out that what is missing from the data may be just as important for theorising as what is there. They make the point that in inductive reasoning, it is important to be sensitive to unstated assumptions and unarticulated meanings. On the other hand Seale (1999), quoting Brown (1978), has argued that grounded theory may have limitations outside research circumstances that are characterised by short-term processes, observable and easily reportable sequences of behaviour, and repetitive behaviour - particularly in circumstances where direct observation is not possible. However as Seale points out, this is really an issue of data collection, not grounded theory technique, and that there are opportunities to introduce other data into the process to make up for any deficiency.

Postmodernist commentary appears to surround the issue of coding. This includes criticism about the perceived narrow analytic strategy imposed by the heavy reliance on coding as the first step, particularly with the emergent utilisation of computer software, as opposed to the more "thoughtful teasing out of the subtle and various meanings of particular words, or on global perceptions of whole structures within data" (Seale, 1999: 103).

Punch (1998) summarises the principle benefits to be derived from the grounded theory approach thus:

- grounded theory explicitly addresses the age-old question of how to generate theory in research;
- it represents a coordinated, systematic but flexible research strategy;
- it brings a disciplined and organised approach to the analysis of qualitative data; and
- the traditional theory verification approach is largely inappropriate at this stage for addressing contemporary social research in emergent professional and applied areas, including newly developing organisational contexts. Grounded theory appeals because it concentrates on discovering concepts, hypotheses and theories.

Morse (1994) notes that if the research question concerns an experience and the phenomenon in question is a process, then the most appropriate method to address this question is grounded theory. In this study, examples of the circumstances suited for the application of the grounded theory approach included the evolving LARMCC organisation for cooperative planning and management, its associated community consultative committee (its composition, role and function), and the overall policy framework within which the organisation operated. This included the important issue of developing a corporate view of the organisation with successful 'whole-of-catchment' policy development

The application of grounded theory strategies to the study is illustrated in Figure 2.3.

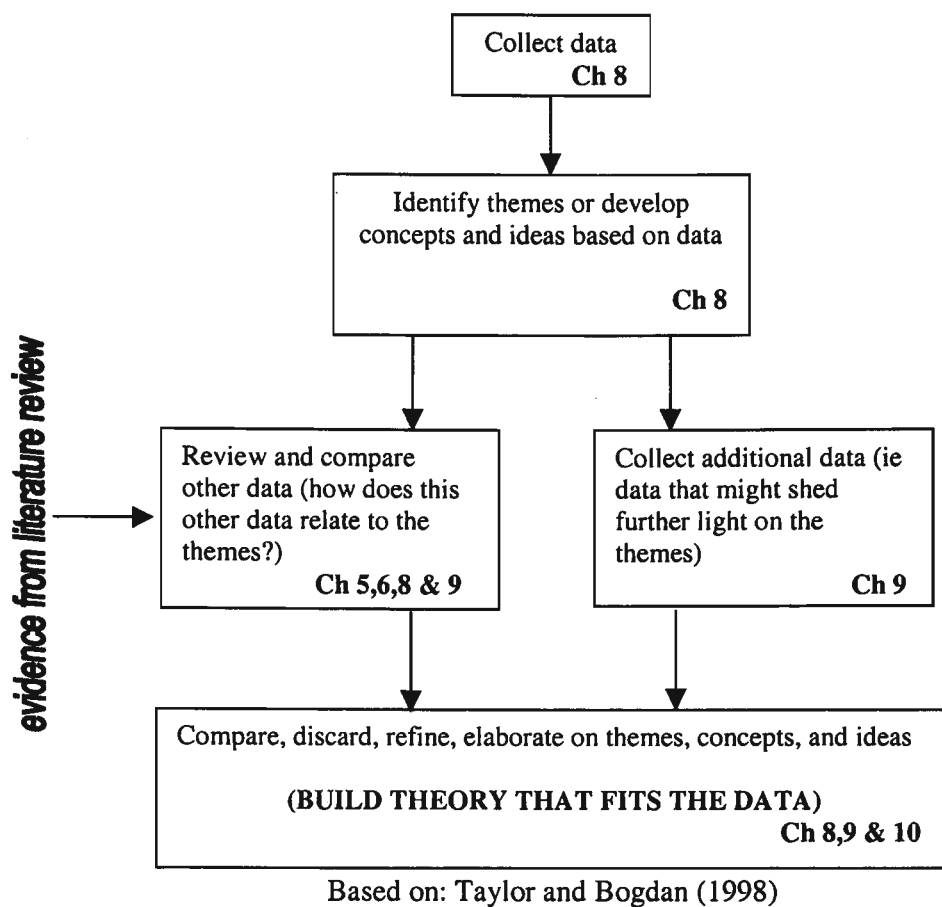


Figure 2.3: Application of Grounded Theory Strategies to Study

Marshall and Rossman (1999) note that in grounded theory development, the literature review provides theoretical constructs, categories, and their properties that can be used to organise the data and discover new connections between theory and real-world phenomena. This approach was used extensively in the present study and is discussed in Section 2.8.3.

Throughout the analysis, reliance was made on the constant comparison method for grounded theory application.

2.5 ROLE OF THE RESEARCHER

In qualitative research studies, the researcher is the instrument (Marshall and Rossman, 1999). They point out that the researcher's presence in the lives of the study participants is fundamental to the paradigm. However, it also brings a number of strategic, ethical and personal considerations to the fore, which are not normally of concern in quantitative research approaches. Considerations concerning the role of the researcher are basically of four types, viz:

1. *The Degree of Participantness*: this can range along an extensive continuum from full participation in every aspect of daily life involving complete observation to detachment from the research setting altogether;
2. *The Extent of Revealedness*: the extent that the participants are aware that the study is being undertaken can range along a continuum from full disclosure to complete secrecy, with many ethical issues associated with the latter.
3. *Intensiveness or Extensiveness*: concerns the amounts of time the researcher spend at the research setting and the duration of the study over time. An intensive and extensive study requires the researcher to devote a considerable amount of time initially in order to develop trusting relationships with the participants and to establish his credentials and credibility. As Marshall and Rossman (1999) note, the gathering of pertinent data is secondary during this phase.
4. *Focus of the Study*: this can be specific or diffused depending on the specificity of the research question and the degree of the exploratory nature of the study within its research setting.

Reciprocity considerations, (not being a spongelike observer), require the researcher to acknowledge the efforts, resources and time being voluntarily devoted by the participants to the study. Reciprocation on the part of the researcher may require the consideration of issues such as the need to develop a two-way flow of information, providing informal feedback, tutoring, undertaking tasks on behalf of the participants, but all within the constraints of the research and personal ethics.

Marshall and Rossman (1999) also highlight the paramount importance that the interpersonal skills of the researcher plays, particularly as the conduct of the study will often depends entirely on the relationships built between the researcher and the participants. This relationship includes the building of trust, the maintenance of good relations, respecting the norms of reciprocity, and the sensitive consideration of ethical issues. Additionally, the researcher must have communicative skills that allow him to explain the nature, purpose and expectations of the research study.

Qualitative researchers self-consciously draw upon their own experience as a resource in their inquiries and they always think reflectively, historically and biographically (Denzin and Lincoln, 1998b). Traditionally, efforts were made to eliminate the influence of researcher bias - ie what they brought from their background and identity (Maxwell, 1998). However there is substantial contemporary support for the inclusion of one's experience into research as a major source of insights, hypotheses, and validity checks (Marshall and Rossman 1999; Seale, 1999; Bickman and Rog, 1998; May, 1998; Punch, 1998; Taylor and Bogdan, 1998). This does

however require the upholding of what has been described as 'critical subjectivity', where we do not suppress our primary experience, but at the same time, we do not allow it to dominate, instead, we maintain an awareness of it and utilise it in the inquiry process (Maxwell, 1998). Whilst noting that there are as yet no explicit strategies to achieve this critical subjectivity, Maxwell (1998: 78) suggests that a "researcher's experience memo" should be developed in order to reflect on and to document the different aspects of experience and identity that are potentially relevant to the study. Layder (1993) suggests that this biographical description should document two principle aspects of relevance to the study, namely:

- the social involvement of the researcher in the research setting; and
- the role of the researcher in the wider (but associated) field.

A researcher's experience memo relevant to this study is set out below.

RESEARCHER'S EXPERIENCE MEMO

1. Role within the Research Setting

The researcher has had a long history of association with the research setting, commencing in professional terms with the supervision of a postgraduate landscape planning study of the watercourses in Logan City during 1985. This Queensland University of Technology study, titled *Logan City Watercourse Management Strategy*, was formally presented to the Logan City Council at the conclusion of 1985. The council subsequently adopted the strategy in the following year and resolved to incorporate it into the strategic plan of their future statutory Town Plan. One of the principal policy recommendations of this strategy, the "Adjacent Shires Co-operation Policy", required the Logan City Council to "seek the co-operation of the adjacent local authorities in order to prevent land use conflict arising through the implementation of the management zones outlined in the Strategy Plan" (Landscape Planning Group, GDLA, QIT, 1985: 70).

In terms of the case study, the researcher's involvement commenced with active participation in its conception and in the genesis of the organisational structure for the operation of the concept. He actively assisted the Logan City Council to establish a mechanism to address its "Adjacent Shires Co-operation Policy". In the circumstances of the *Intrinsic* Case study, the researcher:

- lives within one of the local authorities of the cooperative group
- acted as technical adviser to the LARMCC, see Grinnell (1993)
- provided technical planning advice
- conducted and managed the participatory action research for the project
- facilitated the community workshops related to the LARMCC activities

- established a LARMCC web site for the project

Acknowledging the reciprocity considerations, a participatory action research was adopted for use with the case study. In this regard, the researcher was involved with the LARMCC to establish the structure, processes and procedures for cooperative planning and management. This is action oriented research which occurs within the formal organisation where the researcher works with the practitioners with the intent to change the organisation, to solve immediate problems and to facilitate long term change and learning (Neuman, 1994).

2. Role in the Wider Field

The researcher has been a long time advocate for the adoption of a regional approach to planning and environmental management to supplement and compliment existing forms of management and policy development in Queensland. He has taught regional planning theory in a number of planning courses at two Brisbane universities now since the late 1980's. This has also included responsibility for the convening of regional and strategic planning studios which over the years, have include the conduct of a number of student based exercises focused completely within the research setting.

In relation to the participating local authorities comprising the LARMCC, his specific and formal associations include:

<u>Local Authority</u>	<u>Association</u>	<u>Period</u>
Logan City Council	Member, Environmental Advisory Sub Committee	1982 to 1995
Logan City Council	Member, Forward Planning Advisory Committee	1991 to 1995
Gold Coast City Council	Member, Merrimac/Carrara Floodplain Advisory Committee	1996 to 1999
Gold Coast City Council	Member, Urban Design Advisory Group	1996 to 2000

The researcher's other association with initiatives from within the wider region that may have some relevance to this study include:

<u>Initiative</u>	<u>Association</u>	<u>Period</u>
Queensland State Government Water Infrastructure Task Force	Member	1996 to 1997
Queensland Coast Care Assessment Committee (State Government)	Independent Chair	1996 to 1998
EPA Coastal Landscape Assessment	Adviser	1996 to 1999
Regional Landscape Strategy Advisory Committee (State Government)	Independent Chair	1998 to present

During the period of this study the researcher has been involved in a number of initiative that have possibly had some direct bearing on this study in some manner. These undertakings have included:

1. Convenor and member of the organising committee for the "Scientific Conference on the Use and Management of the Brisbane River", (October 1987). Subsequently, he was co-editor of *The Brisbane River - A Source Book for the Future* (1990), published by the Australian Littoral Society in association with the Queensland Museum.
2. Adviser on regional planning and management to the "Commission of Inquiry into the Conservation, Management and Use of Fraser Island and the Great Sandy Region", (September 1990 to May 1991). In this capacity he authored a position paper on regional planning which resulted in the inclusion of recommendations to that effect in the Commission's final reports to the State government.
3. Project manager for the Regional Open Space and Recreation program of the SEQ 2001 Regional Planning study, (May 1992 to December 1993). He was responsible for the report that led to the development of the Regional Open Space System (now the Regional Landscape Strategy) and its adoption by the State Government as a principal policy initiative.

2.6 RESEARCH METHODS

Because phenomenologists (constructivist/interpretivist) seek different types of answers from different sets of problems to those favoured by positivists, qualitative research requires the employment of different research methods and techniques. Four methods are favoured and form the core of qualitative inquiry. A combination of these methods were employed and they included:

1. participation in the setting;

2. direct observation;
3. in-depth interviewing; and
4. analysing documents and material culture, (Marshall and Rossman, 1999)

2.6.1 Participation

Participant observation is both an overall research approach (see Section 2.1), and a data collection method. It requires first-hand involvement in the research setting in order to experience at first hand the realities of the experiences of the participants, thereby learning directly from that experience. Marshall and Rossman (1999: 106), note that "these personal reflections are integral to the emerging analysis of the cultural group of interest". Grinnell (1993) sees the participant observer having a natural role, including that of an adviser, and undertaking the following: observations; interviewing; engaging in casual conversation; and facilitating group discussion. For Taylor and Bogdan (1998) the researcher blends into the 'woodwork'.

2.6.2 Observation

Observation is a fundamental and highly important method in all qualitative inquiry (Marshall and Rossman, 1999). For example, it can be employed to discover complex interactions in natural social settings. It facilitates the discovery of recurring patterns of behaviour and relationships especially during the early phases of a study. It involves the systematic noting and recording of events, behaviours and artefacts within the research setting.

2.6.3 In-depth Interviewing

In-depth interviewing in qualitative research is distinctively different from the more conventional interviewing approaches that seek predetermined responses. Marshall and Rossman (1999: 108), quoting Kahn and Cannell 1957), describe qualitative in-depth interviewing as "a conversation with a purpose". Taylor and Bogdan (1998) support this style, suggesting that interviews should be modelled after a normal conversation rather than the formal Q and A exchange. For example, the participant's view of a topic of research interest should unfold as they see it, and not as the researcher sees it. This assumption is fundamental to qualitative research.

In addition to generic forms of in-depth interviewing, there are a number of specialised interviewing forms that can also be employed. One of particular note to this study is the *Elite interview*. As the name implies, this form of interviewing focuses on a particular type of interviewee, one considered to be influential, prominent and/or well informed in the organisation or the community. Marshall and Rossman, (1999) note their selection is on the basis of their expertise relevant to the research. Valuable information can be gained in this

manner due to the particular insights that these elites can provide into the social, political, financial and administrative realms of the setting. They can also comment on the organisation and its relationship with other organisations, its policies, past histories, and future plans from their particular point-of-view. The disadvantages of this method include difficulty of access, and the possible need to adapt the interview structure to accommodate their requirements.

2.6.4 Review of documents

The abovementioned methods are usually supplemented by the review of documents that are produced in the course of the activities associated with the research setting. These may include minutes of formal meetings, policy statements, press statements, correspondence, archival material and the like. The utilisation of documents and archival material is also considered as an 'unobtrusive measure', a method which does not necessarily require the cooperation of the study's participants, nor does it interfere with the research setting. For these reasons, this method is particularly useful for triangulation.

Tables 2.2 and 2.3 provide an overview of the relative advantages and disadvantages of the various research methods that have been described and discussed.

Table 2.2: Strengths of Data Collection Methods

Strengths	Participant observation	Observation	Interview	Document review	Unobtrusive measures
Fosters face-to-face interactions with participants	X		X		
Useful for uncovering participant's perspectives	X		X		
Data collected in natural setting	X	X	X	D	X
Facilitates immediate follow-up for clarification	X		X		
Good for documenting major events, crises, social conflicts	X	X		X	
Collects data on unconscious thoughts and actions	X			D	X
Useful for describing complex interactions	X	X	X		
Good for obtaining data on nonverbal behaviour and communication	X	X	D		X
Facilitates discovery of nuances in culture	X	X	X	D	X
Provides for flexibility in formulating hypothesis	X	X	X	D	X
Provides context information	X	X	X	X	
Facilitates analysis, validity checks and triangulation	X	X	X	X	X
Facilitates cooperation	X	D	D		
Data easy to manipulate and categorise for analysis				X	D
Obtains large amount of data quickly		X			
Allows wide range of types of data and participants	X			D	X
Easy and efficient to administer and manage				X	X
Easily quantifiable and amenable to statistical analysis				X	X
Easy to establish generalisations				D	
May draw on established instruments				X	X

Source: adapted from Marshall and Rossman, 1999: 134

KEY: X = strength exist; D = depends on use

Table 2.3: Weakness of Data Collection Methods

Weakness	Participant observation	Observation	Interview	Document review	Unobtrusive measures
Can lead researchers to "miss the forest whilst observing the trees"	X	X		X	X
Data are open to multiple interpretations due to cultural differences	X	X	X	X	X
Requires specialised training					
Dependent on cooperation of small group of key individuals	X		X		
Fraught with ethical dilemmas	X	X	X		D
Difficult to replicate	X	X	X		
Data often subject to observer effects	X	X			
Expensive material and equipment					X
Can cause discomfort or even danger to researcher	X				
Especially dependent on openness and honesty of participants	X		X		
Overly artistic or literary style can obscure the research	X	X	X		
Highly dependent on the "goodness" of research question		X		D	X
Highly dependent on the ability of the researcher to be resourceful, systematic and honest	X	X	X	X	X

Source: adapted from Marshall and Rossman, 1999: 135

KEY: X = weakness exist; D = depends on use

Importantly, Breakwell, Hammond and Fife-Schaw (1995) claim that the effects inherent in the recognised weaknesses such as those identified in Table 2.2 will tend to even out over time.

2.7 TRIANGULATION

The purpose of triangulation is to reduce the risks of systematic distortions inherent in the use of only one method of research (Bickman and Rog, 1998). Triangulation refers to the combination of research methods or sources of data utilised in a single study (Taylor and Bogdan, 1998). Marshall and Rossman (1999: 194) argue that additional soundness and hence legitimacy can be derived for the findings of a qualitative study through the application of triangulation, the "act of bringing more than one source of data to bear on a single point". In this manner, data from different sources can be used to corroborate, elaborate, or illustrate the research findings. This can also assist in strengthening the study's usefulness for other settings.

Janesick (1994: 214/215) distinguishes between five different forms of triangulation, viz:

1. data triangulation - use of a variety of data sources
2. investigator triangulation - use of several different researchers

3. theory triangulation - use of multiple perspectives to interpret a single data set
4. methodological triangulation - use of multiple methods to study a single problem
5. interdisciplinary triangulation - use of other disciplines to inform our research processes

Cohen and Manion (1994) also recognise two additional forms of triangulation, viz:

6. time triangulation takes into account the factors of change and uses cross-sectional and longitudinal designs
7. space triangulation - uses cross-cultural techniques in an attempt to overcome the parochialism of studies done in the one country or culture.

Seale (1999) discusses some common criticism of triangulation, noting in particular the issues of which research method or technique is best suited to act as the benchmark in data and methodological triangulation with most agreeing that the interview is the least desirable. The philosophical critique raises the question of certainty - ie after all the research methods employed converge and agree, how can we be certain that they are correct? Whilst in a purely logical sense there is no answer, on the basis of what might be plausible, triangulation at least can enhance the credibility of the research and suggest what is plausible at this point-in-time.

In seeking maximum data triangulation, a range of research measures was utilised to take advantage of their strengths as previously discussed in Tables 2.1 as well as to note their weaknesses as detailed in Table 2.2. The key data collection techniques that were utilised in relation to the case study included:

- participant observation - this was one of the two main methods employed;
- documentation review - this was the second of the two main methods employed;
- observation – a secondary method that was relied on;
- some interviewing within the limitations of the focus on the organisations and not the individuals; and
- minor amounts of unobtrusive measures.

2.8 OTHER METHODOLOGICAL CONSIDERATIONS

2.8.1 Data Analysis

Qualitative research is inductive - it develops concepts, insights and understandings from patterns of data (Taylor and Bogdan, 1998). Qualitative data analysis is the search for general statements about relationships amongst categories of data - it builds grounded theory (Strauss and Corbin, 1997). Marshall and Rossman (1999) describe it as a process of bringing order, structure, and interpretation to the mass of collected data. They note that typically in qualitative studies that data collection and analysis are interwoven to establish a coherent interpretation of

the data. To this end grounded theory techniques are useful, and provide reference to the inductive theorising process of qualitative research (Taylor and Bogdan, 1998). Besides providing a research strategy, grounded theory is also a method for analysing data. The specific aspects of this method have been discussed above and are further elaborated on in the applied sections below. Additional options for data analysis include pattern matching and time series analysis, or a combination of the two - a logic model. Along with grounded theory, both are suited for the analysis of data derived from case studies (Yin, 1998).

2.8.2 Representation and Legitimation

As Marshall and Rossman (1999: 191) note, "all research must respond to canons of quality - criteria against which the trustworthiness of the project can be evaluated". They cite these canons as four questions, namely:

1. how creditable are the particular findings of the study and what criteria can be used to judge them?
2. how transferable and applicable are the findings to another setting or group?
3. how can we be reasonably sure that the findings would be replicated if the study were to be conducted with the same participants in the same context?
4. how can we be sure that the findings reflect the participants and the inquiry itself, rather than a fabrication from the researcher's biases or prejudices?

These traditional interpretations are challenged by postmodernist and feminist views, which for example assert that "all discovery and truths emerge from the researcher's prejudgements and predilections" (Marshall and Rossman, 1999: 192). Lincoln and Guba (1985) whilst acknowledging that all systematic inquiry into the human condition must address these issues, have reworked the traditional constructs for internal validity, external validity, reliability and objectivity, for naturalistic or qualitative inquiry (quoted in Marshall and Rossman, 1999). They have proposed four alternative constructs to more accurately reflect the assumptions of the qualitative paradigm, namely:

1. *Credibility*: requires the demonstration that the inquiry was conducted in such a manner as to ensure that the subject was accurately identified and described. The strength of a qualitative study of a setting, process, social group or pattern of interaction will rest with its validity. This is essentially assured by the in-depth description of the complexities of processes and interactions with data derived from that setting. This validity will hold true within the parameters of the setting, the population and the theoretical framework, and therefore these parameters must be clearly stated.
2. *Transferability*: how useful are the findings to others in similar situations, with similar research questions? Lincoln and Guba suggest that in this circumstance, the onus of demonstrating the applicability of the findings rests more with the researcher who wishes to

make the transfer, rather than on the original researcher. They also note that this construct can be strengthened through triangulation involving the application of multiple sources of data to a single point of analysis.

3. *Dependability*: here the researcher attempts to account for changing conditions in the phenomenon under investigation and for changes in the research design in response to greater understanding of the setting.
4. *Confirmability*: on the basis of the data alone, can the findings of the study be confirmed by another? Essentially this requires confirmation that the data itself helps to confirm the general findings and leads to the implication, rather than the researcher attempting to do so in an 'objective' manner.

On the question of replicability, it would be impossible to claim that this was possible in relation to qualitative research. By its very nature, qualitative research cannot be replicated because the real-world changes. Qualitative researchers do not attempt to control the research conditions but focus on the recording of the complexities of complex interactions occurring in their natural setting. Marshall and Rossman (1999) strongly advocate against any attempt to replicate the altering research strategies within a flexible research design of a typical qualitative study. Additionally, it is recommended that researchers should keep thorough records and well organised and retrievable data for future possible confirmation purposes.

Previous discussion has addressed the issues of the potential influence and bias of the researcher (see Section 2.2.3). Marshall and Rossman (1999) recommend that any assumptions that may affect the study be clearly stated, along with the expression of biases and personal subjectiveness gained through self-reflection.

2.8.3 Literature Review

The principle objective of the literature reviews that were conducted in support of the investigations was to assist in the development of the conceptual framework for the study, largely through the development of the research question. The study's specific objectives were:

- to provide a context for the study and its research question;
- to provide the theoretical basis to the underlying assumptions behind the research question and the macro research issues and its associated question sets;
- to provide an up-to-date review of related research and to identify the research frontier for emergent paradigms relevant to the research question;
- to demonstrate the need for the present study in relation to identified gaps in the research;
- to refine the research question through a continual embedding process with the broader empirical findings;
- to derive evaluation criteria for assessing aspects of the case study; and

- to supplement the data analysis and theorisation process (grounded theory) and assist in the provision of validity for the research findings

The process of assisting in the development of the study's conceptual framework including the formulation and framing of the research question, was assisted by the strategic statement of a series of questions associated with a number of macro research issues. These questions also served to guide the direction of the literature search. They are stated within the exploratory chapter (Chapter 1) and within Figure 1.4.

2.9 SUMMARY

This chapter has outlined the research strategy and the theoretical aspects underpinning the case study that has been examined in order to test the research question. Essentially it has been established that the case study has the potential to offer insight into the research question of how *a voluntary cooperative coalition of existing local authorities within a river catchment can manage regionally significant environmental issues through traditional planning frameworks*, by facilitating:

- a study of matters/things in their natural settings (Section 2.1);
- an examination of the meaning that people place on these matters (Section 2.1);
- a focus on issues of social integration, ie how people manage their affairs, how they get things done, how they interact, how they get along with each other (Section 2.1);
- a collaborative approach through action and participatory research (Section 2.1);
- the immersion of the researcher into the research setting with the study resting on the researcher's and participant's world-views (Section 2.4.1);
- research into organisations and institutions in the public sector (Section 2.4.1);
- a contextual setting for study of an organisation where individual membership is constantly changing (Section 2.4.1);
- a longitudinal study of the organisation and the cooperative process (Section 2.4.2);
- the application of a grounded theory approach to the case study data (Section 2.4.3);
- research through a variety of means, namely: researcher participation; observation; interviewing; and document analysis (Section 2.5);
- triangulation of results from a number of sources (Section 2.7);
- tests of validity for representation and legitimation (Section 2.8.2);
- the requirement for a valid and useful research setting (Section 2.3);
- maximising the background and experience of the researcher in relation to the case study (Section 2.5); and

- a good correlation between the principal elements of the research question derived from the literature, and the preconditions and prevailing conditions of the geographical and institutional settings of the case study (Sections 2.8.3 and 2.4.1b).

The evolving nature of planning theory, including that of allied fields to traditional planning, needs to be addressed in regard to the research question. Before examining the case study in detail, (see Chapters 8 and 9), the overall parameters for the evaluation of the case study and the criteria for gauging its performance are ascertained from the literature and discussed in Chapters 5 and 6. This review has been undertaken principally to establish the research frontier for the major research themes in terms of emergent paradigms in those respective fields.

However, prior to examining these research frontiers for the principal research themes, the traditional responses and approaches from the planning field to the recent and contemporary environmental management challenges are first examined (see Chapters 3 and 4).

3.0 TRADITIONAL RESPONSES TO CHANGING MANAGEMENT REQUIREMENTS - Challenges & Prospects

This chapter and the next refine the research question within the context of the research agenda to address the universal calls for the refocus of **scale, method and organisation** of approaches to the management of environmental issues. If traditional approaches to issues of scale, method and organisation for environmental management and planning have not been successful, then what adjustments to our current planning and management practices and systems are necessary?

This chapter defines and examines the challenges of addressing environmental issues at subnational scale – specifically the regional level. It then briefly considers relevant response options that have traditionally been available to address regional scale environmental management. Subsequent sections define and review the range of traditional planning responses to environmental challenges relevant to the study's research period of the 1990s. As well as reviewing these various responses, the arguments for a refocus of traditional management approaches are also noted.

These two chapters raise the issue of why, in the face of the mounting evidence for a cooperative planning approach at subnational (regional) level, has not an acceptable response, imbedded into current management and planning practices and systems, been forthcoming?

The proposition that emergent environmental challenges can be successfully addressed through the adoption of a proactive form of management, namely a cooperative planning approach at the regional level, and within the current dimensions of traditional planning, immediately give rise to a number of macro issues that can establish a framework for, and inform the primary research question. These issues include:

1. **SCALE: *Addressing environmental issues at the subnational level.***

Definitional Questions: What is the scope of the subnational level? Can it be confirmed to embrace the "regional" and "collective local" scale? What is the relationship between the collective local level and the traditional regional scales of planning and management? What are the opportunities for an appropriate management response at a 'natural' regional scale such as a river catchment?

Operational Questions: What is the nature of the regional environmental management challenges? What is the appropriate level to address these environmental management issues? What is the importance of focusing on questions of regional significance and how can it be determined? Are some subnational environmental management issues beyond the abilities and capabilities of individual local authorities to address?

2. METHOD: *Appropriateness of traditional planning and management responses.*

Definitional Questions: What is understood by the term 'planning' and how is this translated into management activity by planning agencies operating at the regional level? What are the core elements and characteristics of the traditional planning paradigm? What are the key elements of the traditional planning process? What is the nature and scope of traditional planning practice?

Operational Questions: What alternative response options are available to governments to address the environmental management issues? What distinguishes traditional planning from other forms of management? How has traditional planning responded to the recent environmental management challenges? Is the traditional planning approach too restrictive philosophically, too narrowly focused, and not well understood, to achieve a higher degree of acceptance by those responsible for environmental management and policy development? What has been the response from allied and parallel fields and disciplines to traditional planning?

3. ORGANISATION: *Achievability of the cooperative planning approach*

The macro issues associated with this research theme are addressed in the next chapter.

This chapter contains specific consideration of the nature of contemporary management responses that have been undertaken within the traditional norms of physical land use planning as practiced by urban and regional town planners. It does so on the basis that the statutory planning process is the prime method of management of the landscape at subnational scale, particularly in Queensland - the immediate context for the research setting of this study. In view of this, examples drawn from the Queensland context will be introduced into this chapter and the next to compliment the generic discussion of response options available to governments.

3.1 CHALLENGES & PROSPECTS AT THE SUBNATIONAL LEVEL

3.1.1 The Subnational Level

Section 1.2 traced the global emergence of three principal dimensions for environmental management that form the underlying themes for this research study, including the importance of the subnational imperative for addressing sustainable development objectives. This also included the potential role of local government and the appropriateness of the drainage basin as a unit of management.

It was noted that the literature tended to advocate these subnational levels without definition or distinction of the precise level for planning and administration. The clear definition of the subnational level is crucial to the subsequent consideration of the appropriateness of cooperative

planning efforts to address environmental management issues at this level. In terms of the political and administrative organisation of national space, the possible levels of organisation for management, planning and administration can include: National ⇒ State/Territory/Provincial ⇒ Regional ⇒ Local. Within the Australian context, the historical evolution of governance has resulted in a three-fold hierarchy of government organisation at the National ⇒ State/Territory ⇒ Local levels. The division of planning functions and other management responsibilities, correlates with this hierarchy, (discussed below in Section 3.3). Consequently, **for the purposes of this study, the subnational level has been defined as the regional level.** This level of management can also be constituted by collective arrangements of local level organisations, eg aggregates of local authorities (discussed in Section 4.2.3).

3.1.2 The Regional Level

a. Regionalism defined

The notion of regionalism embraces the understanding that there exists a political movement and process which leads to the acceptance of regional territories, the delineation of regional boundaries, the formation of regional organisations and the implementation of regional policies and programs. From a cultural perspective, Claval (1993) considers that the recent crisis in feelings of belonging to a nation has resulted in regional identity becoming once more fashionable. Although different from the past where society was tied to a specific regional space, the contemporary notion of regionalism leads people to identify with a particular region because "it pleases them, because it offers agreeable landscapes, a clement sky, well-serviced towns, or because it was celebrated in literature, poetry or the cinema" (Claval, 1993: 160).

Glasson (1992a) saw the pressure for regionalism coming from three sources, namely those seeking administrative devolution from central government, those seeking local government reorganisation, and those seeking a more efficient land use planning system. In the light of the Chapter 1 discussion, two further sources can be added, namely, those seeking effective management of subnational environmental issues and regional scale landscapes, and secondly, those seeking effective cooperative efforts at the collective local scale. In a bioregionalism sense, Brunckhorst (2000: 23) contends that "the regional scale is the critical level at which to reconcile ecological functioning and social institutions". Yaro supports this view stating, "regionalism - the idea that the metropolitan regions are stronger when they harmonize with their natural environments - is making more sense than ever before" (Yaro, 2000: 23).

These contentions suggests that there are opportunities at the regional scale to co-incide and harmonise the planning and decision-making framework with the scale of occurrence of natural and human induced processes of influence.

It is noteworthy that in the Australian context, there is an absence of the fourth tier of regional governance, i.e. comprising elected or appointed members. The creation of this fourth tier may be seen as a solution to addressing the management of regional environmental issues, and other matters of regional significance. However, it is not considered further, as it is beyond the immediate scope of the research agenda of this study, and because of the practical limitations of the Australian Constitution for such proposals. Section 5.4.4 provides further consideration in terms of contemporary trends in regionalisation of planning and management.

b. Regional definition

There are difficulties from a pragmatic point-of-view with regional definition and also with the delineation of regional boundaries. This can be attributed to the large number and variety of disciplines that are involved in regional studies. Attempts to define the concept of the region highlight a number of ambiguities including the variable size of the spatial unit called the region, and the absence of a rigid territorial unit with set boundaries. These challenges are not new. Logan et al (1975: 23 and 31) noted that "in spite of the long history of research there exist no firm rules for the delineation of regions (*and that*) there exist no theoretical basis for the concept of the planning region -- such regions are designed purely for the purposes of a particular planning agency". Harris (1989: 104) concluded that "there is no general set of regions applicable to all possible public sector projects and programs for which regional planning may be adopted and implemented", instead, their size and boundaries tend to vary according to the particular purpose for which the regions are being specified. As a descriptive tool, a region is defined according to particular criteria for a particular purpose (Glasson, 1992a). Hence, depending on the focus, there would be a number of overlapping spheres of regional interest and identification. Given that rigid boundaries for all purposes cannot be ever achieved, these areas would normally be paralleled by a series of overlapping institutional jurisdiction. This fact alone is reason enough to introduce an effective vertical and horizontal coordinating mechanism at the regional level in order to secure a more holistic and integrated approach to environmental planning and landscape management.

3.1.3 Environmental Management Challenges at the Regional Level

It has been noted that there are many opportunities at the regional level to address a considerable number of environmental issues, each with a varying degree of management complexity. Hicks and Brydges (1994) point to a major issue for future management challenges. They note that in the past, most local problems were related to an obvious cause, and the effects could easily and convincingly be related back to that cause for remedial action. Controls were designed, usually on the basis of a scientific approach, and an administrative system established to oversee the implementation of regulation and control. However, now the nature of environmental degradation is different. The local environmental impacts nowadays

have far more subtle cause-effect relationships, often characterised by larger geographical areas of interest, and longer term potential consequences with the potential risks now more chronic than acute. This view is supported by So et al (1986) in their review of regional planning in the USA, where, in the case of the 'multistate river basin' planning region, they pointed out that rivers are the principal source of water for many different and often competing uses, with water quality being the overall prime imperative of any management effort.

The last decade has witnessed the emergence of "quality of life issues" as key policy elements of planning activity, especially at local and regional levels. This is expected to continue in the near future, particularly within metropolitan and near metropolitan regions (Friedmann and Bloch, 1990). Tinley (1986) noted that whilst this achievement is increasingly influenced by global happenings, the core remains the regional ambient. Glasson et al (1997: 32) comment, "there is a strong regional planning imperative - because regional issues endure, although their nature may change over time".

The South East Queensland (SEQ) region exemplifies the range of complex and changing regional landscapes discussed by Hicks and Brydges (1999). Additionally, quality of life issues such as access to regional open space, healthy natural environment and waterways, have become paramount community and hence political issues, dominating the political and planning agendas within this region. The recent SEQ 2001 regional planning initiative which commenced in December 1990 and involved a range of stakeholders, provides some insight into the range and nature of environmental and other concerns of the region's residents (RPAG, 1994; RCC, 2000). Key concerns included the high levels of unsustainable population growth and scattered patterns of urban development that might ensue through non planning 'market-driven' growth management, thus contributing to social inequity, inefficient use of resources, and loss of valuable environmental features.

Despite rising community expectations in relation to environmental management, community groups expressed a concern for a sense of powerlessness in dealing with the government sector, and for the unclear and inappropriate relationships and responsibilities within and between the levels of government that led to much disharmony. The changing intergovernmental relations were also of concern. The community expressed a desire for greater degrees of community participation in planning and for priority to be given to maintaining the current high quality of life for the region (RPAG, 1991).

3.1.4 Complexity of Regional Landscapes

Whilst a number of different perspectives note the complexity of regional landscapes in relation to contemporary development pressures and landscape change, there is a degree of consensus for attention to be given to a planning imperative at this scale.

Addressing the metropolitan region, McHarg, a landscape planner, has postulated that the rank order of the eight dominant aspects of natural processes that denote intrinsic suitability for the operation of natural processes, can, in reverse order, provide an indication of the gross order of suitability for urbanisation. These eight natural aspects, ranging in order of high intrinsic value to tolerance to human use are: surface water; floodplains; marshes; aquifer recharge areas; aquifers; steep slopes; forests and woodlands; and unforested flat land (McHarg, 1992: 154).

Eagles (1984), an ecologist and environmental planner, promotes the recognition of 'environmentally sensitive areas' (ESAs) as a means for addressing the protection of ecological diversity through the protection of natural areas at the 'municipal' level. He defines an ESA as a specifically bounded landscape that contains an ecosystem whose natural characteristics and processes should be maintained, preserved and protected. It may include one or more of the following natural landscapes features: aquifer recharge; headwaters; unusual plants, wildlife or landforms; breeding or overwinter animal habitats; vital ecological functions; rare or endangered species; combinations of habitats and landforms valuable for research or education. ESAs may also coincide with natural hazard lands.

Forman (1995), a landscape ecologist, has advanced the concept of the *land mosaic* which can be recognised at landscape, regional and continental scales. His land mosaic is a reoccurring pattern comprised of only three types of spatial elements, namely: *patches*, (a relatively homogeneous nonlinear area that differs from its surroundings); *corridors*, (a strip of a particular type that differs from the adjacent land on both sides); and *matrix*, (the background ecosystem or land use type in a mosaic, characterised by extensive cover, high connectivity, and/or major control over dynamics). These elements are in turn each composed of small, similar aggregated objects. His 'patch-corridor-matrix' model, whilst recognising that patches, corridors and matrix are the basic spatial elements of any pattern on land, also accepts that other spatial attributes can be accommodated, such as *nodes*, (patches attached to corridors); *boundaries*, (a zone composed of the edges of adjacent ecosystems); and *unusual features*, (rare landscape element types). Forman also notes that patches and corridors have long been a focus for human activity and examination, particularly river corridors, which he considers are "so important to people that every component of society has its hand in the corridor" (Forman, 1995: 208). He considers that the attributes of soil, water and culture to be particularly appropriate assays of sustainability and that the region is the most appropriate planning scale to

achieve sustainability. He cites the region's size and inherent inertia, and its diversity of ecosystems and human activities, all providing greater stability and capacity to resist or to recover from change.

Into this complex landscape web, the concept of the common pool resources (CPRs) has been introduced to provide an understanding of the relationships between sustainable resource management, property rights and the opportunities for collective approaches to management (Ostrom, 1990). CPRs have been defined as including "natural and human constructed resources in which (i) exclusion of beneficiaries through physical and institutional means is especially costly, and (ii) exploitation by one user reduces resource availability for others" (Ostrom et al, 1999: 278). Thus, options for management resolution must address the principal issues of "exclusion" and "subtractability", which in the main, involves considerations of restricted access and the creation of incentives.

At the regional level there is a strong spatial correlation between many elements of McHarg's eight dominant aspects of natural processes, Eagle's ESAs and Forman's 'patch-corridor-matrix' model, with regions experiencing high population growth and development pressures (eg SEQ). The regional level is important because the cumulative effects of individual and fragmented land use decisions can be measured and the necessary constraints recognised and managed.

Ostrom et al (1999) have identified the large watershed as one area presenting the most difficulty in the future management of resources. Under these circumstances, future management considerations will need to take cognisance of the previously noted potential CPR dilemmas. It is noteworthy that throughout this discussion there is a reoccurring environmental component - water. Frequently, these environmentally sensitive areas, in CPR circumstances, are associated with regional water features and related landscape elements, including: the coastline; embayments; estuaries; wetlands; offshore islands; riparian zone of rivers and lakes; rivers and their catchments; man-made and natural lakes; and artificial canals. A complex management relationship is focused on this crucial land-water interface particularly the coastal zone and the riparian zone within the river corridor. These environmental and spatial complexities give rise to planning and management challenges which acknowledges that water is both a "basic human need" and a "quality of life" element. It is further acknowledge that the state of the catchment will determine the integrity of this important environmental attribute. This study sought to explore the opportunities that a planning approach can provide as a means for a community to express their collective environmental value for these regional resources and for achieving their fundamental goals for water.

This situation can best be summed up by acknowledging the concluding recommendations of the SOEAC (1996: 10.17) in relation to catchments, viz, "... success will be more likely if future planning is based on biophysical regions, management of water systems on integrated catchments these conclusions are inescapable". This notion of the river catchment as an appropriate regional scale for planning and management is further developed in Section 3.3.5.

3.1.5 The Local Level of Governance

It was previously noted that the regional level could include collective arrangements of local level organisations - namely aggregates of local authorities. The notion of a voluntary cooperative coalition of local authorities operating within a river catchment to manage regionally significant environmental issues forms a central plank to the research question. This section examines the principal characteristics, functions and policy directions of contemporary local government in Australia in order to establish the challenges and opportunities for their collective operation at regional scales in relation to the research question.

a. Characteristics

The lowest level of spatial organisation for governance, administration and planning is the local authority. Within Australia, a system of local government has operated since around 1840, predating all state and national governments (Halligan and Wettenhall, 1989). Today there are approximately 800 local authorities varying considerably in population served and area serviced. In fact each state government has organised local government differently (Henningham, 1995). The Australian Local Government Association (ALGA) attributes this variation in the structure of local government to the country's historical, geographical and demographic diversity (ALGA, 1994). Irrespective of this diversity, Australian local government has a number of common and distinguishing characteristics that include:

'Localness': the level of government closest to the people with the decision makers presumably having personal knowledge and contact with the circumstances surrounding the decision and where its elected representatives and officers interact directly with the local population, - local knowledge comes close to the decision making process (Stewart, 1983: 16; Bowman and Hampton, 1983: 4). This is in direct contrast to higher order agencies where the main work processes occur within enclosed space and separate from the wider public (Stewart, 1983: 17; Tucker, 1995: 52; Self, 1997: 298).

A Distinct Organisation and Structure: each local authority has:

- an elected council at its apex - communal variant of an elected parliament (Halligan and Wettenhall, 1990: 25; Tucker, 1995: 66/67);

- a supporting administration of appointed officials - communal variant of a public service at state and national levels (Halligan and Wettenhall, 1990: 25; Tucker, 1995: 66/67); and
- the two elements of the elected officials and the appointed officials linked by a committee system as opposed to ministers in the case of higher order governments (Halligan and Wettenhall, 1990: 25; Tucker, 1995: 66/67).

Unique Opportunities for Participation in Decision-making: unlike their state and federal counterparts, all elected members are involved in the detailed working of the organisation through their participation in the committee system which is an integral component of the formal open decision making process of council, (eg councillors must sit on at least one committee), (Stewart, 1983: 16; Tucker, 1995: 66/67). Due to its size and scale, and being within reach of people, it offers superior opportunities for political participation by citizens in the process of democracy (Bowman and Hampton, 1983: 9).

Public Administration Responsibilities and Accountabilities: one of the three basic units of public administration – the others being the department and the semi-independent or statutory authority (Halligan and Wettenhall, 1990: 19). Whilst it cannot be defined uniquely by function, it can be identified by its geographical boundaries (Stewart, 1983: 16; Tucker, 1995: 57). It is a multipurpose organisation serving a variety of functions and can assign priorities within its local sphere across a range of pertinent local and competing issues (Bowman and Hampton, 1983: 4). They have a measure of autonomy and a capacity to provide their own resources through taxation, and in this regard they are a public authority (Bowman and Hampton, 1983: 3; Stewart, 1983: 17; Tucker, 1995: 60). Accountability is provided through the electoral process (Stewart, 1983: 17), and laws enacted by its State government sponsor (Tucker, 1995: 60).

b. Functions

The basic reasons behind the establishment of local government in Australia remain fundamentally unchanged since they were first established and include:

- to be an informed and responsible decision maker in the interests of developing the community and its resources;
- to be an effective provider and coordinator of public services at the local level;
- to be a catalyst for, and a resourceful initiator and coordinator of, local effort; and
- to represent their community to other governments and the wider society, (ACIR, 1984: 5).

Jones (1981) has identified the potential prospects for future local government as a provider of services; an agency of a higher level of government; a business; a force promoting liberty; limited government; a learning institute; a conflict resolution agency; an advocate; and as anti-

bureaucracy. The literature abounds with the longstanding and continuing debate as to the principal role and functions of local government (Jones, 1981 and 1993; Stewart, 1983; Bowman and Hampton, 1983; ACIR, 1984; ALGA and ICL Australia Pty Ltd, 1989; Tucker, 1995; Dollery and Marshall, 1997).

The most economically important local government functions fall within the 'services to property' orientation, including roads, drainage, waste management, sewerage and water supply, footpaths, and flood mitigation works. Local government does not have responsibility for any of the major social policy services such as schools, hospitals or police (Dollery and Marshall, 1997). Most Australian local governments also have a large range of minor functions, in fact they deliver "the most minor range of functions of any Western country" (Jones, 1993: 34). Reynolds observes that whilst local government in Australia has historically been concerned with bread-and-butter tasks, the community now wants local government to look at services which contribute to the quality of life (Reynolds, 1989). This includes attention to environmental issues that contribute to landscape quality, which in turn influences the quality of life at local and regional scales.

Local government in Australia is the creation of state parliaments with various state legislation providing the legislative and state constitutional foundations (Tucker, 1995). At the national level, local government has no constitutional recognition and can consequently be dismissed and restructured at the whim of their respective state government (Henningham, 1995). Likewise, the functions that they perform are limited by their respective state legislation. For example in Queensland, the current *Local Government Act 1993* as amended, defines the specific duties and functions of local government. Section 30 of the act specifies that "the Local Authority shall have full power to make by-laws for promoting and maintaining the peace, comfort, culture, education, health, morals, welfare, safety, convenience, food supply, housing, trade, commerce, and manufactures of the Area and its inhabitants, and for the planning, development, and embellishment of the Area, and for the general good rule and government of the Area and its inhabitants, and for the direction, administration, and control of the working and business of the government of the Area, and shall cause all such by-laws to be duly carried into effect" (LGA, 1993 as amended, Part XI, S30). The planning function is further defined in the *Integrated Planning Act 1997* as amended, where ecological sustainability, consistent with the intent of the NSESD, is to be sought by:

- " (a) coordinating and integrating planning at the local, regional and State levels;
- (b) managing the process by which development occurs; and
- (c) managing the effects of development on the environment including managing the use of premises." (IPA, 1997 as amended, ss 1.2.1).

It is generally acknowledged that the field of land use planning is the most important of local government's regulatory functions particularly in Queensland where for all intent and purposes it is the sole planning body (Tucker, 1995; Bowman, 1983). Jones (1993: 36) also holds this view, claiming that whilst "local government does have considerable power over land use ... (it) always has to watch over its shoulder for state or federal intervention".

In terms of the functions of local government within the broader national perspective, Bowman and Hampton (1983: 4) note that "local government clearly contributes to the efficiency of central government. No central government of a large state can effectively decide what is to be done in all spheres of public policy, nor can it implement these policies and programs efficiently in all areas". This has been the case in the environmental management policy area in Australia and is best exemplified by the implementation of the NSESD and certainly by the recognition of local government in the IGAE. The latter agreement assigns responsibility to local government for the development and implementation of locally relevant and applicable environmental policy within its jurisdiction in cooperation with other levels of government and the local community. It also acknowledges that local government has an interest in the development and implementation of regional, statewide and national policies, programs and mechanisms which affect more than one local government (IGAE, 1992).

c. Cooperative regional planning policy directions for local government

The ALGA, the peak umbrella organisation for Australian local government, has developed and disseminated policy statements for ten topics of local government interest. This study has compared these respective ALGA policy statements to the three principal research themes of cooperative approaches to planning activity at regional scale. The results, tabulated in Appendix 3.1, illustrates how these policies reflect to the varying degrees shown, their intent to acknowledge and address these principal research themes. The Appendix also illustrates the relevance of a policy to the principal environmental management issues associated with the themes of this study, (see extreme right column).

This review of ALGA policy demonstrates a substantial recognition and advocacy by the peak local government body for a cooperative approach from local government with the other spheres of government and their agencies, and to a lesser extent, with the community and sometimes with non-government organisations. Many policy statements suggest that there is commitment to embrace planning activity as a central function and responsibility for local government. Surprisingly, a number of policies also demonstrate a strong commitment for local government involvement at the regional scale, particularly in voluntary organisations. Initiatives such as these, which promote the bottom up approach, ensure that local government retain their existing

power relationship with the other levels of government. It is not inconceivable that they may even improve on that situation (Jones, 1993; Dollery and Marshall, 1997).

These policy statements demonstrate that there is a clear recognition and willingness to voluntarily but independently embrace a planning process, a cooperative approach, and to work in coalitions of local authorities to address environmental issues of common interest. However, there are very limited examples of recognition to do so in an integrated manner.

In terms of emergent form of planning, there is no suggestion in these policies that the planning activity referred to is anything more than the conventional forms of statutory land use planning activity traditionally undertaken by local government. The need for a new planning paradigm to address contemporary environmental and landscape management challenges receives no mention. Presumably this is due as much to the absence of proven alternatives that local government can immediately implement, as well as an absence of leadership from higher levels of government. Likewise, there is no recognition of the desirability to engage, manage and perform the decision making function at a regional level equivalent to a natural system such as a river catchment. Again, this has a low probability of occurring unless there is direction to this effect or there is a definite and demonstrated imperative for local authorities to do so.

Whilst this review has demonstrated an encouraging commitment on the part of local government to the intent of a cooperative approach to regional level planning endeavours that can address environmental issues of regional significance, local government's record of achievements in this regard is patchy and inconclusive. Tucker (1995: 53/54) notes that "local government in the 1990s is in the midst of unprecedented change around Australia (*that*) is the outcome of a number of mutually reinforcing influences". He argues that the principal influences included: the election of reformist state governments during the late 1980s; the adoption of contemporary managerialist approaches; shifts towards economic rationalism; attempts to seek to economise in public spending, and a responsiveness to community concerns.

Self (1997) notes that a whilst a number of regional organisation involving local government currently exist, they "do not usually match up to these potentialities (*and amongst a number of matters*) are largely concerned with establishing some measure of coordination and joint action amongst their constituent councils". Self argues that "regional planning could be an important activity (*but*) currently it is primarily directed to economic development it should be concerned with strategic land use planning, with the growth and creation of towns and settlements, with recreation and tourism, and with environmental protection (*and*) it should also link in with the functional plans prepared at state level for agriculture, forestry, transportation and coastal management" (Self, 1997: 309).

These unclear and unconfirmed circumstances provide additional support for the research intent of this study. The potential utility of this study's assessment of the subject case study may make a contribution to improving our understanding of these circumstances.

Whilst local government has made great strides towards shaking off the mantle of the State's 'decentralised service delivery agency', it has also gained a greater degree of acceptance as an equal partner with the other levels of government in a number of cooperative ventures. Successive recent national and state governments have supported an increasing role for local government. This is exemplified by the 1995 report of the Federal government to the UNCSD in which it acknowledged that local government plays a significant role in the construction, operation and maintenance of the economic, social and environmental infrastructure of a nation. The report further acknowledged that "local government's 'local' nature, flexibility, experience in environmental management and ability to respond rapidly to local expectations means that it plays a vital role in educating, mobilising and responding to the community in the promotion of sustainable development". This led to a claim that "the need to integrate social, environmental and economic elements and to respond to local, national and international expectations is often best achieved at the local level" (CoA, 1995: 61).

Coincident with these trends has been a number of relationship changes between local government and its constituents. Forster, (1999: 154) notes the renaissance of local government during the 1970's and 1980's characterised by "localism and small is beautiful" as a consequence of resident's associations and other pressure groups taking a more active part in local politics. To these ends the ALGA produced a set of "Partnership Protocols" for improving intergovernment and community cooperation, (ALGA, 1990). This occurred at a time when other levels of government were likewise undergoing significant change.

A number of authors have described the accelerating pace of recent and unprecedented change in Australian local government during the last decade which has completely transformed it and which shows no signs of abating (Tucker, 1995; Marshall, 1997). Whilst Marshall acknowledges that the full repercussions of these changes have yet to be fully experienced, he refers to various reform programs that have significantly altered the structure and form of councils. He also acknowledges the broad competency powers that now provide local government with greater degrees of autonomy to manage their own affairs. The role of local councillors are now more closely defined where they are "expected to consult extensively with their constituents, demonstrate new levels of ethical behaviour in their conduct, and exhibit vision in their leadership of the community" (Marshall, 1997: 2).

On a cautionary note, Dovers (2001: 24) reminds us that whilst “local government has untapped potential, especially when municipalities work together through various mechanisms (*and whilst*) institutional arrangements that cross government jurisdictions are at present popular, necessary, and problematic (*and that*) local areas, regions and catchments are in some ways more ecologically logical scales than imposed political boundaries (*he warns that*) arrangements at these scale usually lack political, legal and administrative ‘reality’ and can be weak and easily forgotten”.

3.2 OPTIONS FOR REGIONAL ENVIRONMENTAL MANAGEMENT RESPONSES

This section reviews a range of alternative means available to governments for the development of policy and action plans for environmental management compared to approaches that are reliant on traditional planning processes that exist within existing institutional arrangements at the regional scale. It considers the relevance of these 'top-down' alternative response options compared to the cooperative regional planning approach which forms the basis of the research agenda for this study. The institutional and management response options explored in this section provides a context against which to distinguish and gauge the relationship between the three research themes of this study.

The increasing degree of environmental complexity associated with the management of our landscapes has witnessed a range of varied and uneven political, institutional, administrative and policy responses (including planning). The alternative response options available to governments can be examined under two categories, namely:

1. *Temporary or “One-off” Arrangements*: these options are essentially reactions to an environmental problem (or crises). They tend to be temporary in nature and essentially deal with the process of achieving a limited and usually short-term policy fix to a pressing problem. This normally entails a ‘one-off’ exercise for the development of a policy and/an action plan with which to address management issues. They tend to be focused towards a ‘process’ response rather than a ‘structural’ one capable of ensuring a more long-term and ongoing management approach. Thus these arrangements are characterised by their limited tenure and largely temporary organisational arrangements. They are examples of other methods (to traditional planning) that may be utilised as an alternative response for the generation and review of policy than would otherwise be generated through the standard planning system; and
2. *Permanent Arrangements*: these are structural response options designed to provide for ongoing longer-term management arrangements. These alternative arrangements for environmental management and policy development reflect organisational arrangements

that are permanent alternatives to existing institutional arrangements. They include examples that provide alternative institutional, organisational and administrative responses for environmental management that may be available to governments to address the questions of **organisation**, and to some extent **scale**.

The range and relationship between these alternative arrangements for regional environmental management response options are illustrated in Figure 3.1.

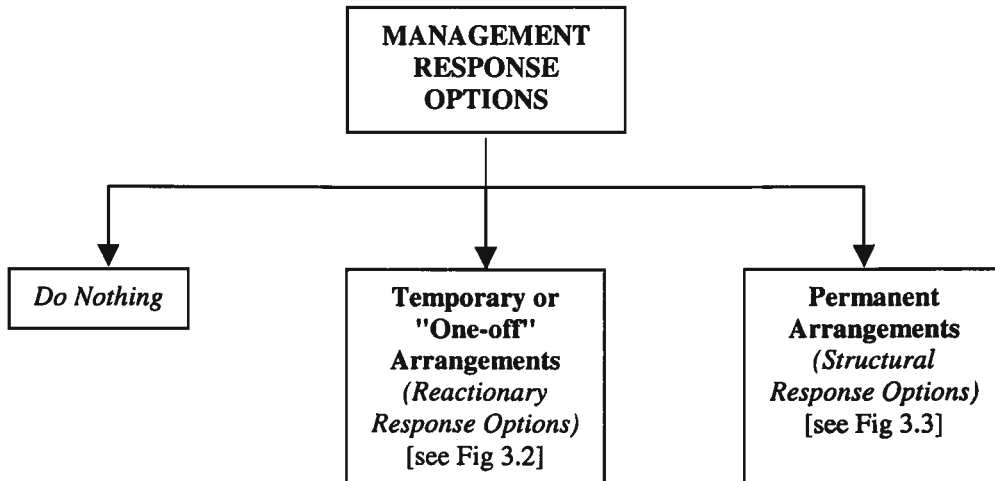


Figure 3.1: Alternative Arrangements for Regional Environmental Management Responses

3.2.1 Temporary or "One-off" Arrangements (*Reactionary Response Options*)

Alternative policy generation processes for environmental management issues can involve reactionary responses such as the public inquiry, special task forces and the like. Their commonality comes from their limited tenure and temporary status. This could also include "one-off" projects such as the development of ad hoc management plans usually without adequate stakeholder representation, and usually only focused to the plan (policy) making phase. These latter responses fall outside the direct scope of the research focus but the public inquiry option that has commonly been associated with regional scale landscape management (eg Fraser Island Inquiry), is briefly discussed below. These various temporary and reactionary response options are illustrated in Figure 3.2.

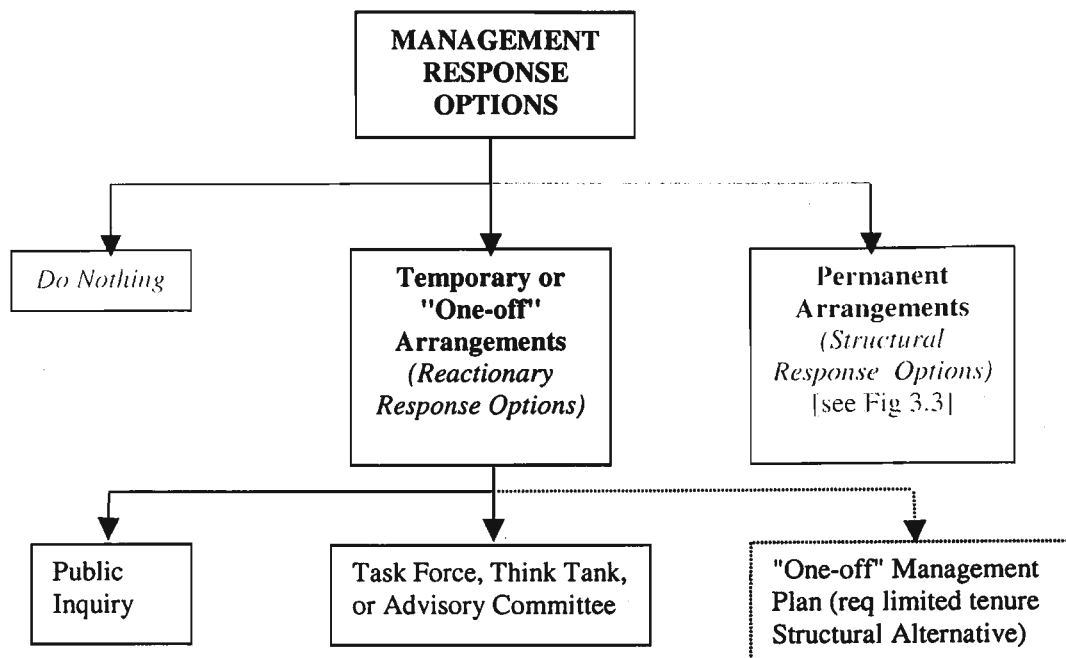


Figure 3.2: Temporary or "One-off" Arrangements for Regional Environmental Management Responses

Governments will always have a number of mechanisms and processes available for the development of policy or for addressing particular problems. Klosterman (1996: 156) points out that "a case for planning in a modern market society cannot be made in the abstract but requires a careful evaluation of planning's effectiveness relative to alternative institutional mechanisms for achieving society's objectives". Equally it needs to be accepted that the "branch" method of what Lindblom (1995) calls "successive limited comparisons" (his 'science of muddling through'), is also practised as an alternative to the rational comprehensive method of conventional planning, the subject of this inquiry and discussed in detail subsequently. However, this not pursued further as the research focus for this study has been firmly constructed to examine the role of the traditional approach to environmental management through conventional planning. The various alternative policy-making processes available to governments to arrive at an environmental management outcome (eg a plan of management, policy or strategy), include the public inquiry and the task force, and to a lesser degree, the advisory committee and the think tank.

Richardson and Boer (1995) have recognised a number of general forms of public inquiries, namely:

1. Standing inquiries under legislation, (eg permanent agencies such as the former Resource Assessment Commission);
2. Non-standing, ad hoc inquiries appointed under legislation, (eg Royal Commissions);
3. Standing and select inquiries appointed by Parliament, (eg parliamentary standing or select committees); and

4. Non-statutory inquiries appointed by the executive, (eg special task forces etc).

The marked increase in the use of public environmental inquiries in the past few decades in Australia has been noted (Richardson and Boer, 1995). Two contrary views exist about the role of inquiries in public policy making. The first sees it as an essential part of the rational policy making process, and a second, where it is regarded as an extension of the political process, appointed by elected officials for a range of overt and covert political reasons (Weller, 1994).

Smith and Weller (1978) had earlier considered that the contribution of the inquiry to policy-making was largely in the intelligence gathering section of the decision making cycle. They cited Vickers (1965) who considered that changing ways of thinking may be the most important contribution that public inquiries may make to policy making. However, more recent alternative views hold that Royal Commissions, (inquiries), can fill several essential roles in policy making, namely: investigate, elucidate and pacify; recommend remedial action, institutional change or systematic reform; or change agendas (Weller, 1994). The degree of involvement in policy making is best distinguished by the three basic types of inquiry, viz:

1. Investigatory - appointed to establish the facts and to make recommendations to government on policy matters;
2. Inquisitorial - established to determine the facts of an incident or past event; and
3. Advisory - to formulate the basis of government policy (Borchardt, 1991).

Inquiries provide opportunities for public participation in the assessment of development proposals and the formulation of policy, and this has contributed to the popularity of inquiries in the policy process (Richardson and Boer, 1995). They also note that this official participation may involve various forms of public consultation, but rarely does it include any sharing of the actual decision making power. However, the question has been raised as to whether the legal approach to problem solving, the most common approach adopted by inquiries, clashes with other professional cultures (Weller, 1994). He questions whether a legal approach has a more closed and derivative method of analysis than other social sciences and consequently raises doubts to its suitability to propose constitutional, social or procedural solutions.

Task forces and some advisory committees are normally established to address a wide range of specific issues. Jones (1993: 259) argues that they “should always have a set life (*to ensure*) that they do not continue through inertia”. Whilst they can be established to deal with disputes between local government, their purpose is more often for coordination of specific issues such as economic development, growth management, or problems associated with service provision.

Whilst, these alternate forms of policy making mechanisms, particularly the inquiry, can be seen as substitutes for the traditional planning approach, their occurrence and the usual motives for their use often differ from that of the planning approach. Likewise, the circumstances and outcomes of inquiries are also clearly different. Their further consideration is therefore outside the scope of this study.

3.2.2 Permanent Arrangements (*Structural Response Options*)

Ward and Dubos (1972: 294) noted that "national governments, too, are trying to find means of adding an environmental angle of vision to institutions which have hitherto followed the traditional one-track approach to specialised problems through separate and usually uncoordinated administration". Some fifteen years later, the Brutland study acknowledged the existence of 'institutional gaps' situations where the problem stemmed from the fact that most institutions tended to be independent, fragmented, working to relatively narrow mandates with closed decision processes (UNCED, 1987: 9)

Governments and their bureaucracies have changes markedly and some times erratically over the past few decades in response to societal change generally. Self (1989) examined the issue of government growth, especially in the 1980's. He concluded that this growth was attributed to two sets of sources, namely:

1. 'environmental' changes to society generally, necessitating greater government presence irrespective of political preferences and processes. These embraced technological, economic and social changes which have added to government responsibilities and led to greater degrees of government intervention; and
2. political processes which have inflated government operations. This is a consequence of the multiple demands that result from the numerous pressure groups now active in society.

Self's conclusions confer a high degree of significance to government involvement in the planning and environmental management fields. He asserts that on the question of technological developments within society, that this has led to "increased social regulation in the interest of health and safety of this and future generations" (Self, 1989: 15). This development paralleled the trend towards increasing degrees of obligation for all levels of government associated with the wave of environmental treaties, conventions, agreements and the like previously discussed in Chapter 1. In structural terms, this has resulted in significant developments in the institutional arrangements and organisational changes that were put in place for management. Typical of these responses were larger and expanded bureaucracies usually with a narrow and quite specific purpose and organised along traditionally defined lines. They tended to be characterised by: a single and restricted focus; a reactionary modus operandi;

limited or no (opportunities for) coordination; arbitrary institutional and spatial delineation of responsibilities; and arbitrarily assigned powers and responsibilities.

In the Australian context, Harding (1998), quoting Mercer, points out that in 1955 no government, state nor federal, had an agency or department specialising in environmental concerns, compared to the present, where there are now numerous environmental bureaucracies and legislation at national, state, and local levels (see Section 1.3.2).

This administrative and institutional responses has given rise to two sets of inadequate and inappropriate management consequences, namely:

1. a system of government decision-making and review characterised by separate stages of review and sequential considerations by individual agencies operating in isolation; and
2. an environmental and resource management system characterised by compartmentalised and fragmented jurisdictions.

At the regional level, a number of institutional response options are available as permanent arrangements to address regional scale policy issues, which may or may not have a spatial dimension, and for which there are currently no assigned administrative or institutional responsibility. These responses can be initiated by state or local government and can range from the establishment of special purpose agencies to the rearrangement of existing government structures. These structural response options are illustrated in Figure 3.3 and include:

- assign the responsibility to an existing (or establish a new) State government department/agency; or
- establish a statutory authority, (State-based initiative); or
- amalgamate small administrative units into larger spatial units (State or Local Government based initiative); or
- establish a "top-down" State coordinating mechanism, (including a State nominated lead agency); or
- implement joint local government arrangements, (State or Local Government based initiative) - this option falls within the research agenda and is considered in detail in subsequent sections; or
- establish a voluntary cooperative coalition, (Local Government based initiative) - this option aligns with one of the three principle research themes of the research agenda and is considered in detail in subsequent sections.

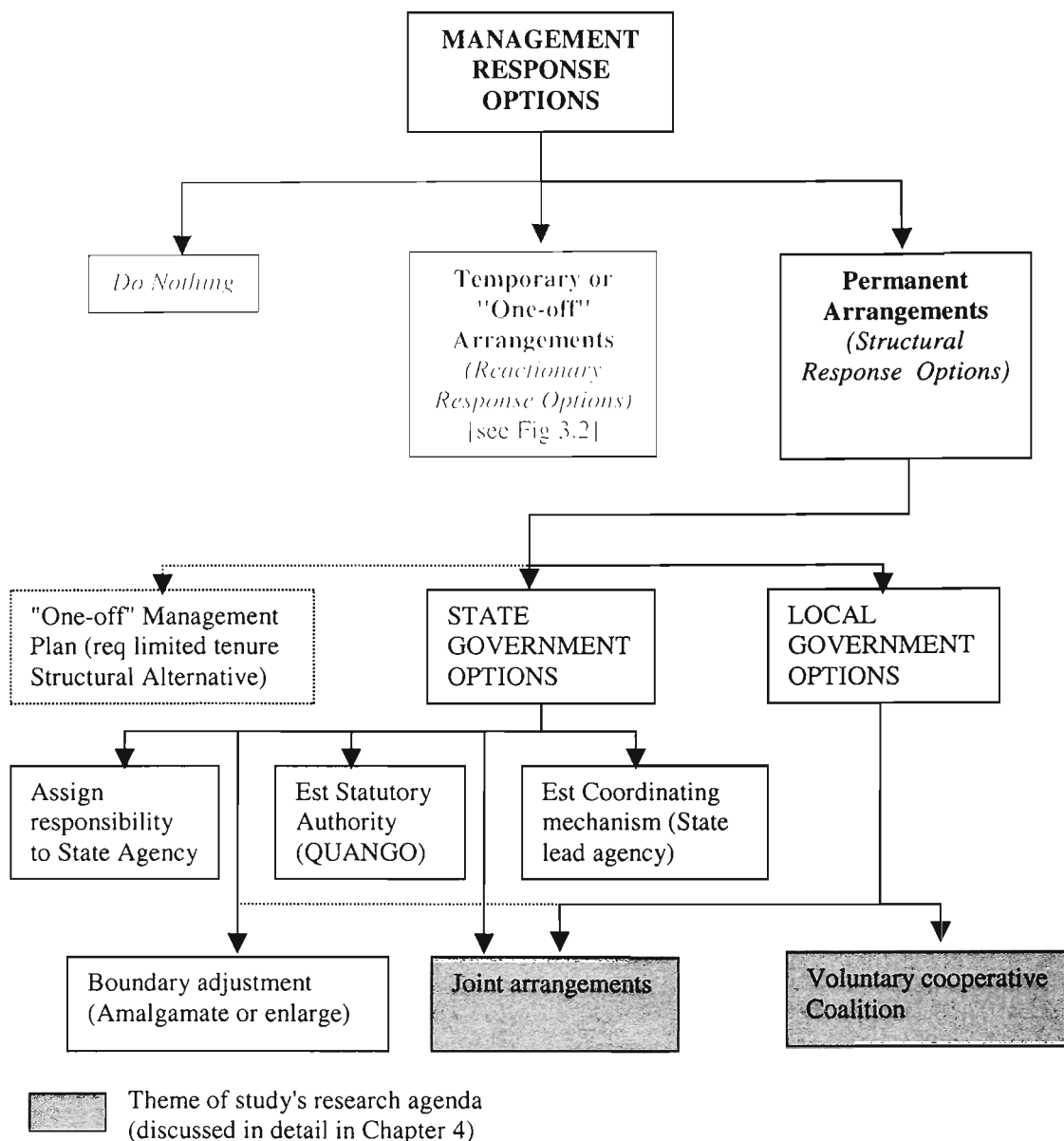


Figure 3.3: Permanent Arrangements for Regional Environmental Management Responses

In the case of the first option it is difficult (but not inconceivable) to accept that a state government department or agency with a whole-of-state focus and set of responsibilities would be assigned regional level responsibilities. Even with the regionalisation of central state government administrative functions, there still remains the difficulty of establishing adequate mechanisms and procedures for coordinating a cooperative and integrated response under current circumstances. Some state government administrations have sought to address the regionalisation of management responsibilities and challenges, particularly those that have resulted in local authority boundary overspill from urbanisation, through local government amalgamations. There is a hint of implied support for this approach from Gleeson and Low (2000: 214) who argue that "we might prefer regions that better reflect patterns of settlement or labour markets however our history (and the Australian Constitution) has determined the existence of the states and their boundaries, and there is little point in trying to change them

what is needed much more is *constitutional* recognition of local - municipal - government". Jones (1993: 277) however argues strongly against amalgamation, claiming that "the lack of any significant county government is the glaring fault in the Australian system (*but*) large-scale local-authority amalgamations will not solve this problem, because they do not have the key functions". Jones (1993: 253) believes that, "much of the case made for local government amalgamation is really an argument for regional coordination". He also points out that no other advanced country tries to govern with so many large, specialised, uncoordinated functional departments at the state and federal levels. Local government amalgamations have, and are, highly emotive charged issues in the state-local government scene in Australia (Dollery and Marshall, 1997; Howe, 1995; Jones, 1993; ACIR, 1984). Local government opposition to state based solutions, (including the establishment of regional councils), can be gained from their advocacy of the alternative cooperative status quo approach which is clearly evident in the selected policies addressed in Appendix 3.1.

Halligan and Wettenhall (1990) point out that the frequent response of state government intervention at times of public pressure for management change, was to remove the 'big' functions from local government and to shift these responsibilities into the statutory authority sector – a view supported by Tucker (1995). The statutory authority is an agent of federal and state level governments and includes authorities, bureaus, boards, commissions, corporations, committees, councils, tribunals and trusts. These quasi-autonomous non-government organisations (QUANGOs)¹ can undertake a broad range of functions from governance (ie direction and control), to the provision of policy and management advice (Queensland State Government, 2000). They can be responsible for a host of management, service supply and promotion functions, including water supply, electricity, fire brigade, ambulance services, harbours, ports, industrial development, specific development undertakings, hospitals, tourism promotion, rural industries, drainage, river improvements, and cultural developments, education.

There are basically six broad categories of statutory authorities in Queensland, viz:

1. Trading Boards (eg Port Authorities) - public trading enterprises engaged in commercial activity with a primary role to guide and direct the organisation;
2. Governing Board (eg Universities) - governs the operations of an agency in a similar manner to 1;
3. Policy/Review/Specialist Board (eg Queensland Recreation Areas Management Board/ Accreditation Council/Radiation Safety Council of Queensland) - policy coordination, review or specialist scientific or research role;

¹ Also referred to as QANGO

4. Regulatory/Registration/Appeal Board (eg Queensland Gaming Commission/Land tribunal) - determine standards, monitor and regulate practice, grant licences, investigate complaints, review decisions and make judgements;
5. Trustees (eg Lang Park Trust) - manage public trusts; and
6. Advisory/Consultative Board (eg Brisbane Forest Park Advisory Planning Board) - advise and make recommendations to the Minister and agencies on policies, plans and practices or issues (Queensland State Government, 2000).

Whilst some boards perform functions across more than one of these listed categories, they all share a number of common roles, namely to:

- be strategic - adopt a long term perspective, anticipate and respond to changes in the external environment, and integrate various corporate functions;
- be client focused - be aware of community and government opinions and needs; balance the demands of different stakeholders;
- ensure the highest standards of financial accountability and ethical behaviour; and
- maintain effective planning, information and control systems to monitor progress (Queensland State Government, 2000).

Whilst they are constituted by an act of parliament and use government resources and finances, these bodies are established outside the mainstream of the public service bureaucracy. Some governments see particular benefits in addressing issues by these means, commenting, "statutory authorities are a particularly valuable mechanism for drawing upon community expertise and experience, or for ensuring local input to the decision-making process" (Queensland State Government, 1988: 2). However, the commonly reoccurring criticism of statutory authorities concerns their relationship with the public service and Ministers of the Crown. On the issue of mutual accountabilities, Wettenhall (1983: 53) concludes "one of the leading common problems (we) need to explore is the vexed issue of accountability, which includes but is much wider than mere accountability to ministers".

A major limitation of statutory authorities is their performance focus towards a single service or function and their general inability to coordinate across a number of issues, areas or themes. Unfortunately, in the past Queensland context there has been a marked increase towards the establishment of these non-elected single purpose authorities (EARC, 1990). In recent times however, there has been a growing trend to reform the functions of government in the wake of national competition policies resulting from the Hilmer inquiry recommendations. This reform agenda will have significant impact on the traditional role and functions of statutory authorities. In the Queensland context for example, many statutory authorities have recently been converted into Government Owned Corporations (GOCs). GOCs are "structured to operate in a manner

which, as much as possible, mirrors the operations of private sector firms, but within a framework where the Government ownership and control is maintained" (Queensland State Government, 2000: 1.0).

Whilst it is acknowledged that many single purpose agencies function quite adequately within their respective areas of responsibility, there is no comprehensive nor coordinated approach taken within a spatial unit larger than the local authority. Consequently, this has led to a situation where the management activities of many single purpose agencies are superimposed over the mosaic of local level planning and present significant challenges for their planning and coordination at the regional level.

3.2.3 Summary

The foregoing discussion has demonstrated that the preferred option is to adopt an approach that can both address the policy formulation tasks as well as take responsibility for the policy implementation phase. These objectives cannot be readily achieved via the temporary "one-off" reactionary approaches offered by public inquiries, think tanks or specially assembled task forces. A more permanent arrangement is necessary for a number of functions, including, a regional point-of-contact, a lead agency for ongoing monitoring and evaluation of program implementation, and a process that can provide opportunities for ongoing stakeholder involvement. It remains then to test the applicability of the traditional planning approach for this purpose - one of the three research themes for this study - i.e. the **method**.

The previous analysis has also concluded that the contemporary requirements for integrated environmental management cannot be adequately achieved through unilateral action by institutions or agencies acting in isolation. Future management needs to be undertaken at a scale appropriate to the challenges - as Jones (1993: 277) comments, "regional participation will become more central because few issues are limited to the boundaries of even large local authorities". This confirms the previous conclusion that amalgamation into larger spatial units is not necessarily the answer, nor is the mere enlargement of the basic spatial management unit. Thus in structural terms, it would appear that a suitable response may be found in a joint or cooperative arrangement. Hence, cooperative structural options of regional scale need to be assessed for this task, and these issues form the remaining two research themes of this study - i.e. **scale and organisation**.

3.3 CHALLENGES & PROSPECTS FOR TRADITIONAL PLANNING

3.3.1 Traditional Planning Approaches

a. Conceptualising Traditional Planning

A general response to the research focus and its associated questions requires consideration of planning as a human activity and an exploration of the nature and scope of traditional planning practice relevant to the research focus. This includes an appreciation of the philosophical and intellectual influences that have helped to shape planning thought to this point.

Healey (1997: 7/8) notes that "planning tradition is a curious one, built up through a mixture of evangelism, formal institutional practice, scientific knowledge and, increasingly, academic development. It represents a continual effort to interrelate conceptions of the qualities and social dynamics of places with notions of the social processes of 'shaping places' through the articulation and implementation of policies". She dates the origins of modern planning thought in parallel with the intellectual era of 'modernity', from the Industrial Revolution, noting that it involved "the systematic planning of economies, of cities and of neighbourhoods (it) thus became a growing preoccupation of national and local governments " (Healey, 1997: 9). She argues that present-day planning has evolved from the traditions of three strands of thought, namely:

1. *Economic Planning*: where the focus was on regulating the use of land, and therefore the emphasis was almost exclusively on economic activity. Linked to a concentration of political power, this form of centralised "command and control" planning system has been criticised for its unresponsiveness, undemocratic practices, economic inefficiency, and disregard for social welfare aspects;
2. *Physical Development Planning*: with a focus on the promotion of health, economy, convenience and beauty in urban settings. This reinforced the "command and control" approach through the land use zoning systems and the like. Issues of urban form were projected to the fore. Healey maintains that by the 1980s physical development planning had begun to move away "from its utopian and aesthetic roots towards a form of policy analysis focused on the practical management of the dynamics of social, economic and environmental change in urban regions" (Healey, 1997: 22);
3. *Policy Analysis and Planning*: emphasises management initiatives aimed at achieving effectiveness and efficiency goals for public agencies, especially those at the local level. Healey argues that "the ideal local government balanced the demands of a pluralistic polity through technical analysis and management (and) policy analysis offered rational techniques for this purpose" (Healey, 1997: 23). Embracing a 'management by objectives' approach, it laid the foundations for the rational planning process. Later, pluralistic

concepts concerning the involvement of citizens in the planning process began to emerge which also raised issues of power sharing in the decision-making process. More recent focus has seen issues of implementation being given prominence.

These historical roots in the Industrial Revolution explain the overwhelming emphasis on improving the living conditions in the rapidly growing towns and cities which became a consequence of the industrialisation processes. This translated into a traditional planning paradigm that was focused on the urban environment and embraced the four core principles of, separation of conflicting land uses; accessibility (physical); economic efficiency; and equity. Healey's three strands of traditional planning provide testimonial to this. However, they also illustrate that only limited attention was given to the broader environmental (ecological, social, cultural) issues of contemporary prominence (eg Howard's "Garden Cities of Tomorrow" concept). In particular, there is no indication how such considerations might be imbedded into future planning themes and practice. By-and-large, planning's concentration of urban issues has meant that it has limited applicability in its conventional forms to many of the contemporary environmental management issues, especially those that are not restricted to urban areas.

Alexander (1992) provides support for this conclusion when he identifies four substantive planning paradigms based on a range of popular concepts that have influenced planning thought. They have the potential to facilitate future philosophical shifts necessary to accommodate changing societal requirements of planning whilst providing a foundation for subsequent discussion and include:

1. Utopianism: the idea that you could design the ideal end state - normative planning;
2. Comprehensiveness: the realisation of the interdependence of parts that make up the whole;
3. Importance of Social Sciences: drawing on the Arts and the Sciences; and
4. Small Group relations: embracing organisational design, behaviour, bureaucracy, community decision-making, and intergovernmental relations.

In the light of these dominant philosophical strands that have tended to direct traditional planning thought and endeavours, a number of issues concerning the future nature, direction and role of planning emerge. For example, can a philosophical connection between conservation and development imperatives be made within the planning process? Should there be attempts at modifying the existing traditional forms of planning method or should new forms be developed. Do other emergent, (but undefined) forms of planning, such as environmental, bioregional, or landscape planning, have a role, particularly in land use management? These issues are addressed below and in Section 5.3.

Gleeson and Low (2000: 12) see planning is a dialectical concept, involving the overlap with other concepts, ie it cannot be "pinned down in a unique, perfectly encompassing definition". In this manner it is positioned to deal with change and evolution.

b. Traditional Planning Processes

It has previously been demonstrated that a planning approach is one of a number of means available to governments for the development of policy, and in this regard, it is a type of decision making process that occurs in the public arena (see Section 3.2). Quoting Friedmann, Alexander (1992: 5) broadly defines planning as "the attempt to link science and technical knowledge to actions in the public domain". Westley argues that planning in all of its forms is a structure of signification comprising the interpretative schemas that give meaning to and frame our activities – it includes myths, paradigms, mind-sets or ideologies. It acts as an intervening variable between knowledge and action in large complex systems by "means of organisational sense-making (*where*) the planning process reduces equivocality of information so that choice is possible (*performing*) as a technology for sense-making and choice generation (*and where*) its form is fundamentally determined by myths or paradigms that dominate a given organisation, determining the perceptions of the environment and the organisation's role in that environment" (Westley, 1995: 396).

Additional support come from Christensen (1999) who defines planning method as a deliberate process of devising a set of actions to change the future course of events for some public purpose. She summarises planning's distinguishing characteristics as public and deliberate, goal seeking and problem solving, and addressing the future with aims of anticipating consequences in advance of action. It is this intended proactive stance that sets it apart for the reactionary alternative that tends to characterise many other environmental management processes, eg the public inquiry and the environmental impact assessment (EIA) process.

At one extreme, planning can involve the preparation of prescriptive plans which detail the specific actions that would be required to achieve a desired end state for the planned area at some future date. On the other hand, a looser definition can be adopted whereby a precise end state is not specified and the planning activity is more of a process of assembling decisions and actions into an orderly sequence. Harris (1989) sees the latter approach as involving: the improvement of deliberate management; limitations and controls to spontaneous forces; guidance for what is happening; and the determination of future outcomes which better conform to the desired objectives. Faludi (1973b) views planning as a rational process of thought and action which ultimately aims at promoting human growth. He notes a number of features common to all types of planning, to include: a sequence of actions; a problem solving focus;

variable problem themes (eg. economic, physical or social etc.); a variable planning period and future time horizons; and comprehensive policies and programs.

Tracing the origins of the rational process for policy development from the USA, Healey (1997) acknowledges the early requirements behind such an approach as the need to link intention (promise) to outcome, as well as for greater accountability in the political decision making process. She notes also the huge influential effects that this has subsequently had on North American planning tradition. Healey (1997: 23) defines 'rationality' as "both a form of deductive logic, and the use of instrumental reason as a form of argument, drawing upon scientific analysis". She sees a policy driven approach to government activity as providing a greater degree of transparency, effectiveness, accountability and consequently, legitimacy, where they can become the basis for decision rules and organising tools for governments.

The generic sequential, 'rational' cyclic planning process contains the following stages:

- decision to plan;
- identification of the problem(s);
- formulation of general goals plus specific and measurable planning objectives;
- identification and analysis of potential constraints and opportunities;
- research and development of relevant standards;
- projection of future scenarios;
- generation of alternative courses of action;
- evaluation of alternatives;
- development of the preferred plan, (including policies, programs, procedures and actions);
- implementation; and
- continuous monitoring (McLoughlin, 1970; Hall, 1992; Lichfield, 1996).

The fact that these procedural steps conform to a cyclic process that includes implementation elements of continuous monitoring, evaluation and feedback, is a crucial point of note for landscape management. Alexander (1992: 85) notes that the contemporary view suggests that "policies are not just made and implemented, or plans drawn up and executed rather, policymaking, planning, program design and project program, or plan implementation are interlinked through continuous participant interaction and adaptation between those legislating policy, or developing plans and those who modify or adopt policies and plans when carrying them out". This adaptive planning approach is discussed in further detail in Section 6.5.

In contrast to the formal rational approaches, the pluralist view holds that government actions should not be guided by long range planning or attempts at comprehensive coordination but by increasing reliance on existing political bargaining processes (Klosterman, 1996). Lindblom

(1995: 46) suggests that the "successive limited comparison" method - an alternative to the rational-comprehensive method previously described, is not only a legitimate approach to policy formulation, but that it is more widely used than normally acknowledged. In fact he argues that it is the common approach of administrators and policy analysts when dealing with complex problems. Lindblom continues his criticism of the concept of rationality, arguing that a "mutually adjusted solution - a negotiation, contest of power, or exercise in reciprocal threats or other manoeuvres - will give us an unreasoned outcome, not a rational solution" (Lindblom, 1999: 59). He further argues, that to claim, that what purports to be a rational unilateral solution is superior to a mutually adjusted solution, is simply a bias.

The rational planning model has been subjected to some severe criticism in the recent past, particularly for not recognising the fundamental constraints on private and organisational decision making, the inherently political and ethical nature of planning practice, and the organisational, social and psychological realities of planning practice (Klosterman, 1996). However, he also notes that the whilst the social need for providing collective goods dealing with externalities remains, the profession currently lacks a widely accepted procedural model for defining planning problems and justifying planning solutions. In summary, Healey argues that traditional planning has generally "been trapped inside a modernist instrumental rationalism for many years, and is only now beginning to escape" (Healey, 1997: 7).

c. Traditional Planning Practice

Traditional planning practice has most commonly applied to spatial planning, which is synonymous with urban and regional planning, town and country planning, and physical planning (Burchell and Sternlieb, 1978; Faludi, 1987; Hall, 1992; Campbell and Fainstein, 1996; Gleeson and Low, 2000). With a genesis originating from the urbanisation process that accompanied the industrial revolution, it is not surprising that the traditional focus for planning activity has sought to address human betterment along the following lines: raising amenity levels; increasing efficiency in the performance of necessary functions; and promoting health, safety and convenience in cities (Klosterman, 1996). It is noteworthy that quality of life issues are still to the fore. The typology of traditional planning has also been associated with an elitist approach to orderly urban development where the planner performed as the expert, planning for people, and reliant on the application of general standards for the provision of public goods without any attempt at consultation with the population (Fainstein and Fainstein, 1996).

The contemporary emphasis however has shifted towards the process of planning activity and not the design aspects. Hall (1992) sees a major distinction between spatial planning and other forms of everyday planning being provided by the association of the two linked attributes of multidimensional and multi-objective features. These attributes require a planning process that

can balance the advantages against the disadvantages and thereby reconcile conflicting objectives. It is this reconciliation ability which is distinct and unique characteristic of urban and regional (spatial) planning that sets it apart from all other forms of planning, (Hall, 1992). Bruton (1974) supports this notion and summarises the essential features of planning as: integrating in approach and multi-disciplinary in character; normative and self directing; concerned with choice, preference and goals; adaptive to change - continuously modifying ends and means, preferences and goals; democratic and participatory; and based on adequate information and consideration of alternative courses of action.

In terms of public sector planning, Klosterman (1996) considers that traditional planning performs four vital social functions, namely: promoting the common or collective interests of the community; considering the external effects of individual and group action; improving the information base for public and private decision making; and considering the distributional effects of public and private action. He argues that the traditional role for planning has been as an independent function of government, charged with promoting the public interest, and representing the collective interests of the community.

However, Abrams points out that, "before planning can function in a democracy, it must hurdle at least four obstacles:

1. win the approval of the public to its proposal;
2. be sufficiently influential to obtain the authorising legislation;
3. gain cooperation as to policy, plan and detail of the necessary officials or official agencies; and
4. survive the scrutiny of the courts as to the reasonableness of the plan in its effect on property rights" (Abrams, quoted in Alexander, 1992: 1).

d. Relationship with environmental management

Conacher and Conacher (2000: 13) define 'environmental management' as "those activities which enhance beneficial links and minimise adverse links between resource systems (or pivots) and their environments, and which seek to attain desirable environmental system states, in response to community perceptions and desires". They make a clear distinction with 'resource management' which they hold to be more narrowly based, usually single purposed, having different and often conflicting sets of management objectives, and less focused on the human or community perspective. They do acknowledge however, that some reconciliation between these two views is taking place through the ecological sustainable development (ESD) process. Whilst noting that they are presenting a clear anthropocentric position, they argue that only the community can undertake environmental management, and consequently, "the desirability (or

otherwise) of maintaining biological diversity is a decision made by people" (Conacher and Conacher, 2000: 12).

Conacher and Conacher (2000: 14) hold that environmental management occurs under conditions characterised by uncertainty, incomplete knowledge, and unpredictability, where "their mode of operation is not couched in predominantly economic terms; instead, they talk of maintaining and improving environmental quality". Ravetz (2000: 140/141) in addressing the situation in the United Kingdom, notes, "the principles of integrated environmental management have been grasped at the national level but the issue here is the gap between rhetoric and reality, and the practical implications for local and regional players". In advancing a desirable environmental management system, Conacher and Conacher (2000) argue that the appropriate set of environmental management objectives should seek:

1. to satisfy multiple-purpose objectives;
2. to address the adaptability of complex environments to future uncertainties and constant change, (including a long term view);
3. to resolve conflict between groups of people;
4. to be proactive not reactive, (ie prevent or minimise conflicts from arising);
5. to involve equity (ie the full recognition and accommodation of peoples' different value systems and attitudes to changes in interactions with their environment);
6. to involve the community early, openly and directly in consultative processes;
7. to be integrated with broad-based land use planning (or vice versa).

This view is entire consistent with the approach taken in this study which explores the appropriateness of the planning process as a suitable mechanism with appropriate frameworks to undertake these tasks. All of the above objectives are within the domain of planning and many can also be addressed by a cooperative approach as will be demonstrated in subsequent chapters. Additionally, it needs to be acknowledged that there are spatial and temporal dimensions to most, if not all, environmental management issues and that these dimensions are central to planning practice as has previously been noted.

Conacher and Conacher (2000: 287) in noting the importance and the key role played by various environmental management methods, including the EIA process, have concluded that "... they need to be nested within a broader policy framework (*and that*) many commentators have indicated that incorporation of environmental protection within a regional planning policy framework, in particular, is essential".

3.3.2 Traditional Regional Planning Approaches

a. Role and Scope of Regional Planning

Glasson (1992a) cites the primary roles of regional planning as: dealing directly with the functional problems of the regional level; providing an information and regional base for higher level state/national planning; and providing a basis for the coordination of local plans.

Two forms of regional planning have dominated the field. The first has been *inter-regional planning* which has been focused on the allocation of resources between regions, as opposed to *intra-regional planning* which by comparison, has focused on the allocation of resources within a region and between policy areas. It is the second form that is of interest to this study. In this context, planning has operated at one level higher than the local government level, (in many instances becoming an extension of local planning), with the prime aim of achieving a satisfactory relationship between people, jobs and the environment within the region. Where its specific objectives included stated environmental considerations, this was usually restricted to physical planning related aspects such as the prevention of urban sprawl and the quality of the urban form (Glasson, 1992a).

In fulfilling its roles and in seeking to satisfy an array of economic, social, environmental, cultural and aesthetic objectives, the typical intra-regional planning exercise results in the production of a regional plan that commonly comprises: an appraisal of the region's natural and human resources; an analysis of the problems and needs of the region; an appraisal of public and private sector proposals within the region; an examination of the likely trends and changes that will affect the existing structure of the region; a land use suitability study; required action incentives; and policies and guidelines for implementation.

To Glasson et al (1997: 31) regional planning is an exercise in persuasion that seeks to "encourage those agencies with the power to act and manage regional development, to adopt and use agreed strategies and to follow particular guidelines in the interest of achieving identified goals and consensus on net regional benefits". However, they also note that regional planning activity is fraught with many problems, often including:

- it is more politically dependent than most forms of planning;
- a lack of a power base and the legitimacy of an underpinning level of governance;
- political mistrust with respect to the potential to empower regions;
- conflict between physical land use planning and economic development planning;
- conflict between intra-regional and inter-regional planning; and
- conflict between regional planning and development stakeholders.

Effective regional planning is dependent on three conditions being met, namely, the making, communicating and control of policy, (Gillingwater and Hart quoted in Glasson et al, 1997: 32). Often regional planning activities are temporary, short-term affairs with teams only coming together for the duration of the plan making phase. Consequently, the plan implementation phase (communicating and control) require special attention, particular in view of the absence of a regional level of governance and a corresponding bureaucracy to support such initiatives. These issues are of particular concern to this study and are addressed in some detail in subsequent chapters. Martins (quoted in Glasson et al, 1997) argues that the four dimensions to effective regional planning include: a sponsoring organisation; an appraisal and an approval network, (for strategy formulation); an intelligence network, (for communication and coordination); and an influence network, (for coordination and control).

Whilst there has been increasing acceptance of planning's legitimacy, there has also been an associated recognition of the need to consider many resource management, environmental and sustainable development issues in a broader than local context - ie to consider the regional significance of resources, impacts and actions. This has rejuvenated an interest in regional planning in the hope that a reinterpreted application of regional planning and management principles will aid growth management and provide solutions to the contemporary challenges facing mo communities. Consequently, the early 1990's has seen the emergence of a new form of regional planning which frequently goes beyond land use to deal with other environmental concerns (Popper, 1993). Friedmann and Bloch (1990: 599) concur with this view, forecasting that "renewed efforts at regional planning will be made at the metropolitan scale to address a whole series of quality of life issues (*with*) citizen efforts directed at re-establishing conditions of amenity".

b. The planning region

Effective regional planning relies on achieving a strong correlation between the problem defined region, the administrative region and increasingly, areas of regional identity. Regional boundary delineation for applied planning purposes is necessary in order to delimit the areas in which a regional authority or organisation has responsibility for: undertaking regional analysis; developing and implementing regional policy; or has powers to act, and to determine matters. To achieve successful implementation of a regional plan or strategy, the region should correlate closely with existing administrative areas. Smith (quoted in Glasson, 1992a) suggests that to be administratively viable, regions need to: be large enough to support a team of professional administrators; be able to provide the necessary talents for their services; incorporate the main commuter hinterlands; incorporate human catchments sufficient for the administration of social services; and consider topographical factors, especially in regard to the administration of utility services.

In practice, planning regions have largely been determined by administrative expediency rather than substantive suitability. Consequently, local authority areas are commonly taken as the basic building blocks for the regions in question. As a result, the planning region's boundaries coincide with grouped local authority boundaries thereby achieving the desired administrative viability.

Some Australian States have regional planning authorities and some achieve ad hoc regional administration through statutory authorities and Quangos. Halligan and Wettenhall (1990) have observed that during the post WW2 era, Australia went through a progressive era that witnessed the beginning of the metropolitan-wide ad hoc authority that shifted important operations from the local government to the statutory authority sector. It also witnessed the increased pressure to 'regionalise' many traditional local government services. This raises the question as to whether bottom up planning approaches involving only local governments, all acting in isolation, can adequately address the emergent environmental management challenges, particularly those emerging at the regional level as previously noted. Is this the reason why *Caring for the Earth's* (IUCN/UNEP/WWF, 1991) regional cooperative initiatives of local government did not filter through to subsequent Agenda 21 initiatives?

3.3.3 Responses from Traditional Planning

a. General responses from traditional planning

The increasing complexity associated with planning and environmental management, particularly of regional landscapes, has resulted in a range of institutional, administrative and planning responses. The underlying element common to all environmental management challenges has been the notion of 'change'. Planning is essentially the management of change. Interestingly however, the responses from traditional planning have been varied, and at times, disappointing. In view of the previous claims made of planning, it is timely to explore if planning approaches have been utilised in the environmental management arena, if traditional planning approaches have been successful, and what has been the reaction to planning outcomes from politicians, the bureaucracy, and the community generally?

Klosterman (1996) claims that an objective evaluation of traditional planning practised in the UK and USA for the last sixty years, will demonstrate the tremendous gap between planning potential and its performance. He notes that planning has yet to demonstrate why it should retain the public's confidence for retaining responsibility for the four vital social functions previously discussed, above other professional groups and institutional arrangements. He challenges contemporary planning to learn from its past mistakes and to build on new and

expanded conceptions of the public interests, information, and political action to realise its ultimate potential. This view is also shared by Evans (1997: 1) who, speaking about post-Second World War planning achievements in the United Kingdom, concluded " all have to be set against the reality that the brave new world implicit in much of early town planning idealism has failed to materialise". In another critique, Taylor refers to the 'golden age' of western Europe and north America planning, as the post war period up to the early 1970's. He also sees this period as the golden age for British town planning, noting that "a broad 'social democratic' consensus reigned in politics under which both major political parties endorsed an enhanced role for the state in managing society, including town planning" (Taylor, 1998: 38). Taylor has observed that many mistakes were made in this post-war reconstruction and development phase, with the consequence that planning was subjected to increasing criticism, which was "directed initially at the *practice* of town planning (*but*) implicit in this criticism was a critique of the *theory* of town planning which underpinned this practice" (Taylor, 1998: 39). He goes on to cite the following theoretical criticisms of town planning:

1. *Criticism of a physical and design bias* - largely against the quality of the design and the emphasis on the physical (built) environment at the expense of social environment. This criticism extends to claims of social blindness; physical determinism; and lack of community consultation. In this latter regard, planners were criticised for assuming that they knew what was best for communities, an over-reliance in decision making on "purely technical professional judgement", and for not recognising the value-laden and political nature of town planning.
2. *Criticism of blueprint planning* a lack of appreciation that plan implementation was an ongoing continuous process requiring provision for review and revision of plans that were flexible. Serious question were raised about the appropriateness of 'end-state' blueprint or master plans that failed to acknowledge the dynamics of the systems that were the subject of planning.
3. *Criticism of normative ideals and assumptions of post-war planning theory* an overemphasis on utopian ideals, conservative concern for aesthetics, the desire for an 'ordered' outcome, and a 'technicalist' view of planning led to allegations that planning was driven by normative thinking that was grounded in very little empirical analysis and understanding of the environments that were the subject of planning, especially the urban areas.

However, Taylor makes an important point when he argues that the criticism of planning thought and practice, especially that undertaken by local government, is based on the assumption that planning is responsible for what is actually delivered on the ground - "... if development was considered 'bad' then this was the result of bad planning". But as Taylor points out, this 'managerialist' view does not acknowledge that many other agents are involved

and "statutory planning is only one agent amongst many shaping the pattern and form of physical development" (Taylor, 1998: 39).

Turner (1998: 3) believes that past planning for environmental management was beset with a number of negative characteristics, namely, "too scientific, too man-centred, too past fixated and two dimensional". He argued that there has been much reliance on pure scientific facts without the necessary application of reason and observation, leading to a lack of imagination as a significant failing of scientific planning. In advocating for a feminist planning approach for environmental management, ie one less domineering, Turner, considered that planning has become too masculine (too much the way of the hunter), and too preoccupied with the future. He concludes, "planning needs to be less dictatorial and more inspirational" (Turner, 1998: 4/5). He contends that planners have by-and-large neglected three-dimensional design and the natural tendency for places to evolve and change. Advocating for multi-purpose planning derived through GIS techniques and sources, he sees the "age of the pre-eminent development plan, master plan or unitary land-use zoning plan is passing away" (Turner, 1998: 27).

Kenny and Meadowcroft (1999) conclude with a similar assessment of the unsatisfactory response from past traditional planning. They claim that "one can discern a reluctance not just to utilise the conceptual vocabulary of planning, but more generally to consider the state as a conceptual and normative terrain of particular significance in the analysis of environmental politics" (Kenny and Meadowcroft, 1999: 1). Acknowledging that this scepticism is "one of the most powerful legacies of the past decade", they see planning as having fallen from grace due to its association with "the more directive, social democratic and occasionally explicitly coercive orientation of socio-economic policy in the 1960s and 1970s" (Kenny and Meadowcroft, 1999: 2). They believe that this is partly due to the general scepticism that society has about planning and with state intervention generally, commenting that, "over time commentators have become increasingly pessimistic about the chances of achieving desired social goals". However, on a positive note, they point out that the process and approach often required to address emergent environmental issues is akin to the planning process, concluding that, "planning thus may be a practical, as well as a logical, requirement of environmental sustainability (*such that*) arguments for a more sustainable future may in fact be crucial in reviving planning's respectability as a social practice and goal" (Kenny and Meadowcroft, 1999: 5).

A similar situation emerges from the Australian experience. Conacher and Conacher (2000: 101) who note that regardless of more recent progress in environmental management initiatives, "planning still appears beset by Lindblom's (1959) 'science of muddling through' - a reactive, incremental decision-making framework moulded by institutional and individual forces, despite efforts to pursue forward planning some planners fear that the prevailing economic

rationalism of the 1990s threatens the core values of planning which had motivated practice in the past". This view is shared by Selman who sees past planning as a top down process, undertaken by trained professionals operating in a framework of political accountability, making rational decisions using formal optimisation techniques within a logical cycle of survey, policy formulation, plan making and implementation and review. He concludes, "planners have learnt from their mistakes, that this idealised process rarely works in practice" (Selman, 2000: 13).

Noting that even where plans do exist they are not always adhered to, Conacher and Conacher (2000: 98) conclude "in reality, political and economic priorities often skew outcomes away from best-use options". Thus, it is extremely important to acknowledge that planning occurs within a political context. It is called upon to respond to the same day-to-day community issues and challenges that drive the engine room of politics at federal, state and local levels, and, as previously noted, this also includes those emergent environmental issues at regional level.

However, from his recent review of governed market planning during that last one hundred years, Lindblom (1999: 47) reminds us that one of the consistent features of "enormous importance" is the reoccurring process of "not setting institutions aside and solving the whole problem from scratch but instead a process of adjusting or tuning a mechanism that carries the main burden of solving the problem". This had led him to conclude, "one must never ask how to plan in order to organise X but how to plan to alter the existing social mechanisms that govern X". This philosophical view also underpins the approach taken in this study to test traditional planning endeavours functioning in modified arrangements at the regional level within their conventional institutional settings. This point is further developed in subsequent sections dealing with cooperative planning approaches, (see Section 4.2).

b. Environmental dimensions within contemporary planning

Birkeland has argued that the value sets that underpin traditional planning methods are systematically biased against the preservation of nature and are not geared towards sustainability. She calls for "a new kind of ecological planning system that can provide a forum for resolving the fundamental ethical issues that lie at the heart of the environmental crises" (Birkeland, 1996: 47). In reconstructing the resource allocation and environmental planning system, she argues that the precautionary principle should be fundamental to this new ethics-based environmental decision-making system. She discusses two possible ethical frameworks, namely an ethics of human well-being and an ethics of care and responsibility for nature. In response, Cussen has argued that "the most significant moral value underpinning current planning is 'rights': the right to do as we please, tempered by the right of others not to be interfered with" (Cussen, 1996: 82/83). Consequently, he argues that traditional planning fails to protect the environment because the moral value of planning practice is underpinned by

this notion of 'rights'. Cussen argues that two preconditions must first be met before an ecological ethic can be adopted. They include the need to establish the coherence and relevance of the idea of the intrinsic value of nature, and the need to gain community consensus of these facts. In the light of his perceptions of the current moral and ideological climate, he doubts the timeliness of Birkeland's proposals to gain success.

In terms of embracing a philosophical environmental perspective, modern planning started out well with some of its pioneering founders such as Howard, developing their philosophical base on the notions of "a combination of social engineering, careful landscaping and good civic design (to) produce the 'garden city' where town and country would be 'married' in a symbiotic rather than exploitative relationship" (Gleeson and Low, 2000: 153). These early environmental associations with traditional town planning practice in Australia were also noted by Hutton and Connors. They acknowledge a set of positive outcomes from planning's focus on urban environmental issues for the bulk of the last century and conclude, "the achievement of more than seventy years of urban environmentalist activity was twofold: it established the principle that industry and speculators did not have unrestricted rights - residents has rights to be protected from harmful urban pollution; and it helped to establish the administrative machinery required to regulate and control this pollution" (Hutton and Connors, 1999: 85).

However, with traditional planning's singular urban and economic efficiency focus, it appears incapable of adequately addressing the emergent array and complexity of planning areas and interconnected environmental issues. This view is supported by Herring who, speaking of the USA, notes, "tensions between development and conservation of natural resources exists in all parts of the country (and the) conflicts reflect a real limitation of resources and a growing list of demands and values society puts on these resources (however) established planning systems failed to deal with these conflicts" (Herring, 1999: 1).

By addressing specific deficiencies regarding environmental issues in planning, Kozlowski (1990: 311) argues that planning can then become more anticipatory and proactive, commenting "its conservative approach can only be changed by shifting the emphasis from curing the symptoms to prevent the cause". However, Kenny and Meadowcroft (1999: 1) caution that increasing degrees of complexity "some of the most complex problems yet faced by modern society", will seriously challenge planning successful address of specific environmental issue. They note that this scepticism, particularly the capacity of public agencies to intervene wisely and effectively, has led to the de-legitimation of planning in some liberal democratic states.

Marsh and Lallas (1995) argue that traditional project-by-project, 'command and control' (planning) approaches to ensuring environmental protection in urbanising areas are inadequate

in that they: address issues in a fragmented and incomplete manner; promote conflict amongst the interests involved and discourage cooperative and trusting relationships; allocate costs of development and environmental protection inadequately and inequitably; fail to provide certainty to the various interests; and result in unnecessary losses and costs to the broader constituency and in questionable outcomes.

A more optimistic view comes from Lindblom (1999: 47) who believes that, "environmental planning in market democracies has achieved modest success and is probably gaining in both strength and intelligence", commenting that it has become a principal focus for government within recent decades. Alexander (1992: 140) notes in particular, "the enhanced consciousness of many kinds of trade-offs (such as between environmental and development values) will only multiply the arenas where planning has to be undertaken before decisions can be made". This optimism can be tempered by McHarg's review of the Washington DC Y2000 plan. He discovered that the proposed development bore no relation either to definitions of natural process values or to intrinsic suitability, commenting, "it is most disconcerting to conclude that not only does uncontrolled growth fail to recognise intrinsic suitabilities and unsuitabilities for urban growth, but that the formal planning process is almost as culpable" (McHarg, 1969: 155). BUT he reached that conclusion some 30 years ago (see his first version of *Design with Nature*, 1969). More recently (1992) he has written "the power to employ ecological planning from national to local scales has accumulated slowly. Serious omissions remain, notably the fragmentation of environmental sciences and the plethora of responsible institutions " (McHarg, 1992: vi).

It is interesting to observe however that there are two divergent points-of-view, depending whether or not you are within or outside of the planning profession. Perhaps the most damning criticism comes from those allied professional outside of, but associated with the planning profession. Forman for example, acknowledges modern planning's earlier embrace of the "biological and natural world", but notes, "yet, in some planning circles public administration and economics have been substituted for the biological component. In essence, this is an experiment, doubtless of short duration, to see if natural processes, biological patterns, and the environment can be largely ignored by planning the result is that planning and management themselves are now in trouble" (Forman, 1995: 440).

Forman (1995: 440) argues that the 'command and control' adversarial approach is underpinned by "laws, regulations, guidelines, standard practices, building codes and planning acts" that were developed to "protect society from human error health, safety, and welfare (*but*) before the recent explosion in ecological understanding (*and unfortunately*) we are stuck with the standards". He sees the essentials for planning and management as "knowledge, room

for creative flexible solutions, and collaboration among individuals" supported by an interdisciplinary planning process. Acknowledging the earlier works of McHarg (1969), he argues that landscape ecology can now cause a rethink of the traditional planning approach with consideration of additional dimensions, namely: the structure or spatial landscape setting beyond the immediate site; the functional flows across the whole landscape; and the dynamics of landscape change (Forman, 1995). Contemporary explanations and theories of landscape planning are discussed in detail in Section 5.3 - emergent planning paradigms.

Steiner (1991) supports Forman's generic view, pointing to the benefits of the ecological approach through the application of different scales to landscape analysis which are in essence akin to the various levels of organisation used by ecologists. He highlights the fact that the ecological approach recognises that each level of organisation has special properties and that this is useful when considering the hierarchical arrangements where wholes at one level become parts at the next. Brunckhorst (2000: 17) however cautions against a planning and management approach based on the ecosystem concept, claiming that it is "fraught with difficulty in its use because, though it is a spatial interaction of biotic and abiotic factors, it is scale-less". Instead, he advances a case for a "bioregional" approach. As another emergent planning paradigm, bioregional planning is also discussed in detail in Chapter 5, (see Section 5.3.3).

Conacher and Conacher (2000) provide an optimistic view and conclude on a more positive note in regard to future prospects for the application of a planning approach. They note that non-metropolitan regional scale planning evolved through its earlier economic development focus of the 1970s to the emergence of concerns for environmental issues, commencing during the 1980s. They claim that "some of the key changes which influenced a more comprehensive and integrated style of regional planning included:

- greater intergovernmental cooperation;
- broad recognition of ESD and environment in planning policies;
- clarification of government roles and responsibilities in planning;
- merging of natural resource management agencies into single, major, administering bodies;
- consolidation or revision of natural resource management legislation to include environmental protection;
- strengthening of environmental protection legislation, often with mandatory requirements;
- development of environmental planning strategies (conservation, wetlands, coastal zone, biodiversity strategies, ICM, state planning strategies, planning protocols);
- broadening of regional plans with an economic/urban focus to include non-metropolitan regions, environmental factors and other externalities; and

- broad community consultation to help shape policies", (Conacher and Conacher, 2000: 319/320).

Whilst there may be some debate over the precise nature and influence of some of these points, there can be little argument that the philosophical base underpinning traditional planning in general, and regional planning is no exception, has been enlarged to embrace the broader range of environmental issues and concerns of the past two decades. To remain relevant, planning will need to continue these initiatives. The major issues will be: to what degree can planning be 'comprehensive' and can it integrate the diverse range of aspects of importance to contemporary society? These issues are developed further in Chapter 5.

3.3.4 Australian Planning Responses

The previous discussion highlights the largely inadequate and disappointing world-wide response from traditional planning to emergent environmental management challenges, notably, but not exclusively in western democratic societies. This would appear to be also the case in Australian. Gleeson and Low (2000: 203) note "a strong sense of crisis that has beset Australian planning as it has struggled to deal with its progressive critics - Marxists, radical democrats and environmentalists as well as the fundamental challenge to its existence posed by neoliberalism". They also acknowledge that the genesis of the conservation movement in Australia had its roots outside of the urban areas in the field naturalist arena and that Australia has a history of early park establishment by many colonial/state governments, (Gleeson and Low, 2000).

a. The national planning context

In the British administrative and governance traditions, generic town planning has been a long-established function of government. The division of planning and environmental management responsibilities in Australia follow very similar lines of demarcation with analogous evolutionary trends. The division of the planning function correlates with the hierarchy of government organisation, ie National ⇒ State/Territory ⇒ Local. Under the Australian constitution only a few collective whole-of-nation responsibilities were originally ceded to the Commonwealth, most were retained by the States. Parkin (1982: 116) has noted, "this Constitutional division of powers left the States with immediate, and in most cases exclusive, responsibility for what can now be regarded as urban affairs: housing, public health, land, labour and industry, transportation, education, police and the administration of justice, personal social services". However, this situation has changed over time with enhancement of the Commonwealth's position from a series of High Court judgments plus a number of legislative and legal manoeuvres by the Commonwealth, involving the Loans Council and the disbursement of finances back to the State.

In strict urban and regional planning terms, the Commonwealth government's involvement has never been strong or serious, with the exception perhaps of a very short foray during the Whitlam Labour government era of the 1970s. Gleeson and Low sum up the current situation in response to what they see as the impacts from neoliberal reforms thus, "the Commonwealth government has washed its hands of any involvement with cities and their planning. The capacity for thoughtful, well-researched and consultative planning has been much reduced in most states" (Gleeson and Low, 2000: 205). Advancing their case for a "multi-tiered planning system that would see all levels of government engaged in appropriate levels and detail of spatial planning, they argue that "there is a particular need for the Commonwealth government to take on the task of spatial planning, identifying areas of environmental vulnerability and social need throughout the whole nation, areas for action to which funding will be applied" (Gleeson and Low 2000: 213).

The state-local governments relationship was reviewed by a study completed by the Australian Urban and Regional Development Review. The AURDR (1995: 214) noted that "over time, the states have developed a strong tendency to delegate additional functions to local government - especially for the administration of the regulatory aspects of planning and development control and, more recently in some states, for strategic planning". This was consistent with the situation confirmed by the review of urban growth in regional Australia, which also highlighted the uncertainty in the degree of cooperation between and within the tiers of government (Beer et al, 1994). At local government level, individual councils generally lacked flexibility, and had limited spare capacity and reserves in resources to be able to react to the emergent regional environmental challenges when they arose. Traditional town planning (and development control) systems were too narrowly and city focused and consequently could not adequately respond to these challenges. Because of their inward and parochial focus, issues of regional significance were continually overlooked and not acknowledged by the policy and planning activities of local councils. Lastly, there was no overarching coordinating mechanism nor process to link the otherwise separate, fragmented planning activities of individual local authorities and state government agencies, the private sector and the community-at-large.

An early progressive initiative to embrace an environmental planning framework that acknowledged the biophysical, economic and social elements and could extend beyond the local level to incorporate a regional perspective was attempted by the NSW State government in the late 1970s/early 1980s. The NSW *Environmental Planning and Assessment Act 1979* was an attempt to combine the functions of environmental protection with statutory planning in the one agency. One of the key planning instruments that was to be used in this regard was the Regional Environmental Plan (REP), along with the Local Environmental Plan (LEP) which

was the statutory town plan at local authority level. The stated prime role of the REP was "to enable state and regional issues to be resolved separately from the local planning process" (DEP NSW, 1987: 10). However this attempted integration of environmental protection and statutory planning was short lived and these functions were split in the late 1980s. Whilst promoting the biophysical, economic and social needs in planning, the REPs have not proven successful in their stated aim largely due to subsequent legislative amendments by successive State governments which have effectively stripped away any of the REPs former effectiveness (Conacher and Conacher, 2000).

A similar set of constitutional circumstances exist in respect to the division of responsibility for environmental management (CoA, 1984; CoA 1992a; SoEAC, 1996a; Aplin et al, 1999; Harding, 1998; Conacher and Conacher, 2000; CoA, 2000). In view of the evolved environmental residual powers, the States have the major responsibility for environmental management across a wide range of areas including, environmental impact assessment, pollution control, management of resources (land, water, air), environmental education, managing biodiversity, and heritage conservation. As in the case of planning, many of these functions have been delegated to local government by their respective State governments. This situation has been summed up by the recent House of Representatives Standing Committee on Environment and Heritage inquiry into catchment management when they concluded that "the result is that there is no national approach to environmental management; there are no nationally agreed principles, priorities, targets or criteria. This in turn produces poor coordination between jurisdictions, a plethora of legislation and ill-defined responsibilities for the different levels of government and individuals" (CoA, 2000: 46).

In terms of cooperative federalism, the commonwealth-state-local governments situation for environmental decision-making has been improved through such initiatives as the 1992 "*Intergovernmental Agreement on the Environment*" (IGAE). Roles and responsibilities are now more clearly defined and there are efforts to seek greater degrees of national level cooperation and a sharing of responsibilities from data gathering to implementation, across the whole environmental management arena (Conacher and Conacher, 2000).

b. Regional planning responses

There is a long history of criticism about the absence of any long term commitments from all levels of government to planning, (including statutory planning), at the regional scale in Australia (Neutze, 1978; Harris, 1989; Jones, 1993; Low Choy and Minnery, 1994; Self, 1995; Gleeson and Low, 2000; Conacher and Conacher, 2000).

Contemporary notions of regional planning, (as outlined in Section 3.3.2 above), involving both the State and Commonwealth governments, have their origins in the post World War 2 reconstruction phase in Australia. The political interest of successive state and federal governments in regional policy development for planning, economic development purposes and-the-like were never consistent nor evenly applied. Non-metropolitan regional scale planning evolved through this initial economic development focus to emerge in the 1980s with the challenges and pressures of concerns for the environmental issues which as previously noted, were starting to emerge at the regional scale at this time. But again the responses from various state and federal governments were varied and inconclusive.

Gleeson and Low (2000: 2) concur with Self "that a return to regional planning is necessary if social and environmental health is to be restored to the nation's dying rural settlements and regions". Self (1995: 263) had earlier advocated for "a more effective system of regional planning". He saw this as the only way to achieve effective regional development. However he placed two prime sets of preconditions on achieving effective regional development, namely, it should be selective, well planned and responsive to social and environmental requirements and it will require a working partnership between all three levels of government.

Self (1995: 264) conceded that his ideas for "possible political cooperation for regional development may seem premature to some and utopian to others", however, he argued that "the time would seem ripe to ensure that these potentialities are not squandered but safeguarded for the long-term benefit of a growing society". Howe (1995: 183) believes that this process has commenced, commenting, "although the impetus for regional cooperation has often been driven by the search for efficiency of service delivery rather than strategic planning or policy considerations, this is now changing".

A summary of the recent developments in statutory urban and regional planning in Queensland is outlined in Appendix 3.2. It provides a visual overview and historical summary of the evolution of strategic and regional planning thinking and initiatives by successive state governments for the period relevant to this study.

Traditional planning endeavours, particularly in Queensland, were noted for a lack of a regional perspective and focus. Plowman et al (1993: 7) have noted "regional planning is critical for achieving nature conservation goals, since the natural environment does not recognise local authority boundaries (*however*) unlike other states the Queensland Government has no tradition of involvement in regional land use planning". The responsibility for statutory planning in Queensland is devolved via the *Local Government Act 1993* as amended and the *Integrated Planning Act 1997* to local authorities. Consequently, there has been an

overwhelming emphasis on the local scale, resulting from a disinterest in state level planning and a delegation too far to the lowest level of government by successive state governments. Howe (1995: 182) also notes "devolution of responsibility to local government from State governments and Federal governments is not always accompanied by devolution of power and resources". The past situation in Queensland has been summed up by Low Choy and Minnery (1994: 200 and 202) who comment "town planning has been essentially the responsibility of individual local authorities, although under the relevant legislation the final responsibility for approval of plans and changes to plans remained with state government. Coordination between local authority plans was at best *ad hoc*; at worst non-existent. State government did not see a role for itself in this process a major feature of planning across Queensland has, in fact, been the absence of regional planning".

Whilst there has been no formal regional or metropolitan planning in Queensland in the past, there are a number of notable exceptions in the SEQ region, including: the *de facto* dominance of Brisbane City and its internal planning initiatives; the 1970 SEQ and Brisbane Region Public Transport Study undertaken by US consultants, Wilbur Smith; the 1973 Cities Commission's preliminary investigations of urban centres and the Moreton Region; the joint COG (Qld) and Cities Commission's 1976 Moreton Region Growth Strategy Study; and the establishment in 1973 of the Regional Coordination Council (RCC) for SEQ to put into effect various initiatives associated with the 1973 Commonwealth Grants Commission and the Australian Assistance Plan. However, none of these initiatives were formal regional planning undertakings and none resulted in agreed outcomes and policies that were formally implemented, although it may be argued that some may have had an effect on subsequent local authority and single agency planning. With the exception of BCC undertakings, none of these past regional studies involved the SEQ local authorities to any extent.

This long history of devolution of statutory planning responsibility to local government resulted in an almost exclusive inwards looking, parochial point of view being exercised by local government and state government departments and agencies alike. As a consequence, prior to the current regional planning initiatives, in terms of the regional perspective, local government was neither practiced nor familiar in dealing with the "big picture" nor did they necessarily have a strategic outlook.

This process focused most, if not all, attention for land use planning and usually isolated environmental management aspects onto local authorities and their relevant statutory planning instruments and supporting documents such as strategic plans, development control plans, town planning schemes and by-laws. With the exception of special "one-off" planning exercises for mega-project, most regional issues were never identified nor managed, nor were they

incorporated into the statutory planning (policy development) process. Others were poorly managed due to inappropriate mechanisms for coordinated planning and management at this level. This led Low Choy and Minnery (1994: 202) to conclude that "the result was that there was essentially no formal nor institutional link between the statutory plans of local authorities and the programs of state government agencies operating in the same territory".

Hamnett (2000: 176) brings this point to the fore when he comments, "Queensland has a long tradition of minimalist state involvement in local government planning and this has been reflected in the cooperative nature of relationships underpinning the growth management framework developed for South-East Queensland since 1990". The lead up to, the establishment, and the conduct of the SEQ 2001 regional framework for growth management planning exercise has been documented by a number of sources, (see Prasser and Minnery, 1992; Low Choy and Minnery, 1994; Stimson, 1994).

Whilst there was no single trigger for the current regional planning initiatives, Low Choy and Minnery stated that one influential factor was the release of a set of independent population projections for SEQ in 1989 which predicted that the majority of the state's growth would occur in the SEQ regional and be of the order of an extra 1 million over a period of some 10 to 15 years. Faced with these unprecedented population growth projections, plus mounting public concerns for the region's environment and quality of life issues previously outlined, (see Section 3.1.3), the new one year old state government, (in its first term after some thirty-five years on the opposition benches), initiated a cooperative regional scale planning undertaking. Subsequent cooperative regional planning exercises throughout Queensland were modelled on this SEQ experience and the Regional Planning Advisory Committees (RPAC) approach was formally recognised in the *Integrated Planning Act 1997*.

Low Choy and Minnery (1994: 211) noted that "the SEQ 2001 regional planning initiatives represents the first real foray of any state government in Queensland into regional planning. As a cooperative regional planning venture it is seen by the government as a model, or a 'Flagship' for other regional planning initiatives for growth management (*it is*) a unique model neither a true 'top down' nor a 'bottom up' model. It has elements of both". Its cooperative functions are of two principle types. The first was in the cooperative nature of the approach utilised to prepare the Regional Framework principles and policies that were then required to be incorporated into the Structure plans of the four voluntary Regional Organisations of Councils (ROCs), and from there into the individual strategic plans of the (then existing) twenty local authorities that comprised the SEQ region. The second was in terms of the nature of policy implementation that was heavily dependent on local authority cooperation within the four voluntary ROCs.

While critical of what he saw as the "many substantial technical and methodological deficiencies in components of the products, and important doubts about the validity particularly of the *Regional Outline Plan* and the *Preferred Pattern of Urban Development*", Stimson believed that "much good has come out of the RAPAG process, and the good-will and cooperative spirit that has been engendered across the public, business and community sectors is a great achievement and this needs to be maintained, nurtured and developed further" (Stimson, 1994: 58/59). Later reviews have acknowledged the uncertainties in local and state governments' responsibilities, shortcomings in commitment and implementation, and unclear ongoing consultation objectives (Gleeson and Low, 2000). Conacher and Conacher (2000: 368) sum up the situation thus: "it can be seen that Queensland has been moving, albeit schizophrenically, towards integrated environmental protection policies, principles and measures in regional planning".

c. Environmental responses within Queensland planning legislation

In the local state context, it is of interest to note that there was no recognition of the "environment" in Queensland planning legislation until the *Local Government (Planning and Environment) Act 1990*, where it defined environment to include:

- "(a) ecosystems and their constituent parts including people and communities;
- (b) all natural and physical resources;
- (c) those qualities and characteristics of locations, places and areas, however large or small, which contribute to their biological diversity and integrity, intrinsic or attributed scientific value or interest, amenity, harmony, and sense of community; and
- (d) the social, economic, aesthetic and cultural conditions which affect the matters referred to in paragraphs (a), (b) and (c) or which are affected by those matters."

This was a major step forward from the previous legal circumstance where no such recognition of the environment was provided for. In fact, in relation to this initiative, Conacher and Conacher (2000: 159) have commented, "despite Queensland's poor environmental and planning record of the previous two decades, the State's definition of the 'environment' was arguably the most enlightened in Australia at the time, with reference to its unusual breadth". As a result of the previous lack of recognition (standing) for environmental matters, the traditional town planning system in Queensland, had no way to handle the management of ecological sensitive areas (ESAs) and the like that came to the fore during the 1970s and 1980s. It was only through revisions to the rigid town planning zoning system, (usually with offers of financial incentives), that this could be effected, especially in the case of freehold lands. Very limited opportunities also existed for environmental policy formulation and implementation at local government level. These opportunities only came with the 1980 amendments to the *Local Government Act 1936*, which required the preparation of Strategic Plans for all designated statutory planning

areas (see Appendix 3.2). Whilst a significant step in the right direction, there were a number of basic and fundamental flaws with this new approach to the management of the broader environment under local authority control, namely:

- the legislation required the Strategic Plans to articulate the council's intent for their area by statements of 'objectives', not policy statement, (objectives lacked specific guidance and recommended action and did not lend themselves to being readily implementable);
- a local authority was only required to prepared a Strategic Plan for its declared statutory planning area – mostly its urban areas. Consequently, consideration of the increasing important non-urban areas were excluded from management by this means; and
- local authorities lacked the expertise in these environmental fields at that time.

Corporate Plans can provide a broad overarching context to an organisation's suite of management instruments. Unfortunately, in the case of Queensland local authorities, this did not become a mandatory requirement until 1993 (see Appendix 3.2).

The more recent legislation, *Integrated Planning Act 1997*, has gone a further step in enhancing its embrace of an environmental philosophical base. As previously noted in Section 3.1.5b, this legislation is underpinned by an objective that seeks the achievement of ESD, where 'ecological sustainability' is defined as:

"a balance that integrates -

- (a) protection of ecological processes and natural systems at local, regional, State and wider levels;
- (b) economic development; and
- (c) maintenance of the cultural, economic, physical and social wellbeing of people and communities", (IPA, 1997: S 1.3.3).

England (2001: 52) contends that "the 'bottom line' for decision making under the IPA is that decisions must create an *integrated* balance" between the Act's ESD targets as stated above, and not merely "consider" them as required by the previous legislation. However, as new or revised IPA statutory planning schemes have yet to materialise and be subjected to pragmatic testing, it is premature to speculate on whether this initiative can address the environmental, philosophical and content deficiency of traditional planning.

d. Response from the planning profession

In terms of earlier environmental response from the Australian planning profession, Hutton and Connors (1999: 85) note that, "like their parks and fitness colleagues, urban planners viewed themselves as part of a wider environmental movement and had networks and memberships of organisations in all streams". This is easily explained by the genesis and early development of

Australia's first town planning association, the forerunner to the Royal Australian Planning Institute (RAPI). It had strong initial links with its British counterpart, the (original) Town Planning Institute (TPI), with both associations dating from 1913. Consequently, the dominant influence of the 'Garden Cities' movement also found its way into Australian professional planning circles during these early years. Evans believes that British town planning draws its distinctiveness from two sources, namely its professionalism and its reform agenda. He sees the formation of the TPI in 1913 as a "turning point in the development of town planning in Britain", which hitherto only had "the characteristics of a social movement" (Evans, 1997: 2).

Despite these early promising beginnings, traditional town planning developed an inadequate theoretical environmental base which in turn gave rise to a dearth of proven methods, techniques and models capable of adequately supporting current environmental planning processes and practices. Many classical town planning courses, including those in Australia, had little if any environmental content integrated into their courses, or were slow to respond (Wiggins, 1993; Cuthbert, 1994b). Other reports into planning course curriculum tend to support this assertion by the absence of any reference to the environmental dimension for future course requirements (Friedmann and Kuester, 1994). Other views see the environment as a potential area for specialisation in planning education, which is akin to an 'add-on' position (Gleeson and Low, 2000). Martin and Beatley (1993) undertook a study of the extent that North American planning courses had incorporated the teaching of environmental ethics, sustainability, and environmental planning and management subjects. They concluded, "a mixed picture emerges on the one hand the profession has responded with a technical and analytical tour-de-force to many of today's pressing environmental, problems (as demonstrated through the presence of substantial course coverage and specialisations in environmental planning and management). On the other hand it is discouraging that, after some two decades of highly prominent theoretical and practical contributions to the subject of environmental ethics by other fields, few planning programs seem to see the need to extensively examine the value or ethical presuppositions and foundations of land planning - especially of environmental planning" (Martin and Beatley, 1993: 123). In the Australian context, Colman (1993: 22) advocates a similar position, stating, "people entering the planning profession during the next decade or so will have to be equipped to engage in debate about all these (*environmental*) matters and, if necessary, to take a stand".

Consequently, this past lack of natural environmental awareness, appreciation and understanding did not flow automatically through to the profession and into professional practice. For example, the Australian planning profession's national body, the Royal Australian Planning Institute (RAPI)², does not have an environmental comment within its generic

² Renamed the Planning Institute of Australia (PIA) from July 2002

objectives for the Institute. It was late in embracing an environmental stance, evidenced by its adoption of an ESD Policy in 1997, followed by the incorporation of generic ESD principles into its revised Code of Professional Conduct in July 1998 (RAPI, 1997 and 1999). In this regard, RAPI lagged well behind other professional organisations such as the Australian Institute of Landscape Architects (AILA), the Institute of Engineers Australia (IEA) and the Environmental Institute of Australia (EIA). Noticeably the RAPI did not participate in the development of the National Conservation Strategy Australia (NCSA) during 1984, as did most other prominent professional bodies. A stinging indictment of the profession's umbrella body and 'public face' comes from Gleeson and Low (2000: 205) who hold that, "lamentably, the RAPI has failed to lead planning debates within key policy realms and in the broader community. Many people remain unclear about why planning is necessary and what benefits it brings to society (*and also claiming*) this raises the issue of whether the RAPI has identified in recent times rather too closely with the development industry and its political interests, leaving the values of planning largely without the support of professional advocacy".

On a more optimistic note, Hamnett and Freestone (2000: 186) consider that existing planning education programs and recent metropolitan plans throughout Australia clearly demonstrate "the importance which is attached to environmental issues and values in contemporary planning curriculum and it is the case that the growing concern about the environmental sustainability of cities and communities seems to lead back in the direction of *more* rather than less interventionist policies, to the reassertion of the idea of collective interest "

However, this has become a dual challenge for the planning profession. Much current public debate centres on the dissatisfaction with government and their decision making processes. This criticism extends to the perceived influence of elite power-wielding groups of advisers in this process that can include planners. Healey (1997: 3) for example, describes the "figure of 'the planner' (*as*) both an object of blame and hostility, and the subject of our hopes for effective community regulation". She notes that planners are criticised for allowing things to happen or for failing to prevent them happening, whilst at the same time, "they are loaded with responsibilities for safeguarding environmental qualities and protecting peoples' interests".

There has been a corresponding increase in frustration with the complex and publicly "unfriendly" planning systems, and with the limited opportunities for public involvement, in planning, decision making and implementation. Consequently, planners and the planning profession need to seek new approaches to embrace community involvement, particularly in the regional planning process, with the aim of establishing sustainable partnerships with all legitimate stakeholders and thereby regain public confidence. Muir and Rance (1995) support this view. They believe that the traditional geographical and institutional delineation of

responsibilities is inappropriate for contemporary environmental management. They argue that new collaborative approaches involving the broadening of the traditional partnerships are required and that these should forge new strategic alliances between all interested stakeholders.

3.3.5 Responses from Allied Fields and Disciplines

The previous discussion has demonstrated how traditional planning has failed to produce the outcomes sought by governments after many years of application. In the wake of these disappointing outcomes, it may be informative to discover the awareness and level of understanding of the traditional planning process amongst non-planning, but related disciplines, as well as to review the response from that group.

a. General responses

Traditional planning's failure to respond to environmental challenges has given rise to a range of largely bureaucratic responses involving a number of alternative management systems, (including dispute resolution procedures). In many instances, they were developed as separate systems of management to the traditional town planning and development control systems. One negative effect was the lack of integration of environmental considerations into planning leading many authors to call for improved integration between EIA and the planning process (Coopers and Lybrand, 1994; Harvey, 1998; Conacher and Conacher, 2000).

Armour (1989: 3/4) sums up this unsatisfactory situation thus, "from the first time that environmental issues first forced their way into the public policy arena, one theme has always dominated - the need to integrate environmental concerns into the planning process so they can be considered at the same time as economic and engineering factors (*noting that*) such integration is the *raison d'etre* of impact assessment". An example of these alternative management systems was the environmental impact assessment (EIA) process which was borrowed from overseas without any attempt to integrate it with existing statutory planning systems. EIA became an administrative adjunct to the traditional statutory planning approvals systems. Armour (1989: 5) notes that "it is standard practice for impact assessment to be conducted as a process separate and apart from the planning process, as a means of justifying planning decisions rather than contributing in any meaningful way to them. Conacher and Conacher (2000: 162) add further weight to this argument for integration, commenting, "in the past, even in agencies combining 'environmental protection' and 'planning', there has been a marked lack of effective communication between the two groups. This has undoubtedly contributed to some of the difficulties in resolving environmental problems and issues". The previously described short-lived NSW *Environmental Planning and Assessment Act 1979* initiative is a case-in-point (see Section 3.3.4a).

The changing nature of EIA legislation and administrative procedures throughout Australia is in a constant and frustrating state of flux (Gilpin, 1995; Harvey, 1998; Conacher and Conacher, 2000). Harvey (1998) has noted the variations between states in the degree that respective EIA legislation is linked to planning legislation, citing only New South Wales, the ACT and to a limited degree, Queensland. However the Queensland system has recently changed with the introduction of the *Integrated Planning Act 1997* and the Integrated Development Assessment System (IDAS), and whilst it is claimed to provide for a more integrated approach to environmental planning, some authors question the validity of these official claims (England, 1999; Conacher and Conacher, 2000).

Wiggins (1993: 18/19) points out that the environmental movement has had considerable influence on the planning profession, noting that the most significant implication has been "the decision by governments to introduce separate agencies to deal with 'the environment', rather than incorporating such functions within existing town planning systems (*leading to situations where*) environmental scientists are now included in the team of specialists who could undertake 'environmental management' - a team that many academics and some specialists believe has no place for the traditional town planner".

A closer examination of these alternative environmental management systems reveals that there are remarkable similarities with the traditional planning process. A relevant example of a macro level resource and environmental management approach that was developed external to traditional planning, is the National Conservation Strategy of Australia (NCSA), (CoA, 1984). The RAPI was conspicuous by its absence from the NCSA development activities that included the majority of other national professional organisations. The striking similarities between the resulting NCSA process and the established steps of the traditional planning process have previously been noted (see Section 1.3.3). It is also interesting to note the relevance of the NCSAs focus and intent to the objectives of the planning profession. For example, based upon the earlier World Conservation Strategy, the NCSA had as its objectives:

1. maintenance of essential ecological processes and life support systems;
2. preservation of genetic diversity;
3. sustainable utilisation of species and ecosystems; and
4. maintenance and enhancement of environmental quality

The latter objective has had particular relevance to the traditional areas of interest of the planning profession. However, it is the other three objectives that now need to be embraced by emergent form of environmental planning as well.

In the wake of the contemporary environmental challenges, and in a climate devoid of adequate responses from the traditional planning sector, other fields of study have sought to separately address their immediate issues of concern. Gleeson and Low (2000: 155) believe that "Environmentalism in fact tended to develop its own discourse about planning, independently of the professional field of town planning". This consequence can be illustrated by two examples – the Local Agenda 21 (LA21) and the Integrated Catchment Management (ICM) initiatives. It will be shown that these approaches have been characterised by immature attempts at planning and a less than creditable planning process. Most lacked any real planning methodology and rigour and they invariably suffered from an absence of planning logic and a full evaluation of options such as that offered by traditional planning approaches. Interestingly, most calls for improved environmental management reach the conclusion that (better) planning is required but do not outline how this might be achieved. The LA21 and the ICM initiatives represent classic cases of parallel environmental planning systems being established outside of the existing statutory planning systems and not necessarily involving local government in the early development of their application. As a consequence, much effort is now being expended on methods to incorporate these approaches into traditional planning endeavours. This leaves open then the question as to whether the planning profession can take up this challenge?

b. Local Agenda 21 initiatives

Chapter 28 of *Agenda 21*, adopted at the 1992 Rio Earth Summit, provided a mandate for local government involvement in environmental planning for sustainable development (see Section 1.2.4). This initiative became known as *Local Agenda 21* (LA21). However, Chapter 28 did not specify what a LA21 was, nor the process to be utilised to derive a LA21. Lafferty and Eckerberg (1998) believe that this was an omission by design in order not to be too prescriptive in view of the wide variety of local governments throughout the world, all with varying degrees of capabilities and capacities and political systems. They believe that the responsibility lay with individual local authorities to interpret and 'relativise' Agenda 21 to suit their local conditions and problems. As a consequence they have concluded, "this type of interpretation has, in fact, served to deter a more positive and active approach to the idea of Local Agenda 21" (Lafferty and Eckerberg, 1998: 3).

The International Council for Local Environmental Initiatives (ICLEI) has primary carriage for the promotion of LA21 throughout the world. Established in 1990 at the World Congress for Local Governments for a Sustainable Future, ICLEI had the responsibility of preparing the draft Chapter 28 for UNCED. The principal milestones in the development and evolution of LA21 are outlined in Appendix 3.3.

Within the LA21 program, ICLEI (1996) promotes a planning approach which they reference as 'sustainable development planning'. ICLEI advocates that the aim of this form of planning is to broaden the scope of factors considered in municipal planning and decision-making within the context of the legal, technical and financial constraints upon municipal activities. ICLEI had earlier identified these constraints to include: political jurisdiction; limits in legislative or constitutional authority; the professional standards of key management disciplines; technology; and financial resources. Their planning approach rests on a foundation of seven principles covering partnerships, participation and transparency, a systemic approach, concern for the future, accountability, equity and justice, and ecological limits (ICLEI, 1998: ii).

ICLEI claim that sustainable development planning is a proactive process that "combines the principles and methods of corporate, community-based and environmental planning to create a public-sector, strategic planning approach that reflects the imperatives of sustainable development" (ICLEI, 1996: 6). The basic elements of their LA21 planning approach include:

- **Partnership** approaches which encourages the participation of all key stakeholders in the local community in the planning process;
- **Community-based Issue Analysis** which draws upon community expertise and involvement to prioritise needs and provide support to the program;
- **Systems Auditing** based on adequate and accurate baseline data and seeking to ensure that integrative approaches are adopted;
- **Action Planning** comprising: the development of a community vision from the previously mentioned elements; the establishment of action objectives which translate the community vision into focused directives and resource allocation priorities; the definition of targets and triggers; and the exploration of action options and commitments;
- **Implementation and Monitoring** of the partnership-based action plans which may result in adjustments to standard operating procedures and institutional reorganisation; and
- **Evaluation and Feedback** to maintain accountability among stakeholders participants, inform the public of progress and to identify changes to the Action Plan, (ICLEI, 1996: 8)

Based on European experience, Lafferty and Eckerberg (1998: 5/6) have developed a set of operational criteria with which to qualify a LA21 initiative as embracing the intent of Chapter 28. In their model, an initiative would have to reflect all six of the following criteria:

1. A more conscious attempt to relate environmental effects to underlying economic and political pressures;
2. A more active effort to relate local issues, decisions and dispositions to global impacts, both environmentally and with respect to global solidarity and justice;

3. A more focused policy for achieving cross-sectoral integration of environmental and development concerns, values and goals in planning, decision-making and policy implementation;
4. Greater effort to increase community involvement into the planning and implementation process;
5. A commitment to define and work with local problems within a broader ecological and regional framework, as well as a greatly expanded time framework, (three or more generations); and
6. A specific identification with the Rio Summit and Agenda 21.

Whilst there are local examples of recent initiatives that incorporate sustainability objectives and ESD principles into traditional planning (see Section 3.3.3c), the way forward will depend on the ability of traditional planning to broaden its philosophical base to embrace these LA21 criteria. The degree to which emergent planning paradigms, including strategic regional scale planning, have or are capable of doing so, are explored below (see Chapters 5 and 6).

It will be later demonstrated that the principles of ICLEI's sustainable development planning are totally consistent with the philosophical thrust of the planning paradigm advocated by this study. However, the principal difference lies in ICLEI's so-called sustainable development planning process. It centres entirely around their "**Action Planning**" element which suggest that the study should progress from community vision \Rightarrow action objectives \Rightarrow focused directives \Rightarrow resource allocation priorities \Rightarrow definition of targets and triggers \Rightarrow action options and commitments. ICLEI's documentation however is silent on the precise nature of these fundamental steps. These 'black box' procedural planning steps lacks the necessary rigour to ensure that there is a systematic development of feasible options, followed by a balanced evaluation of these alternatives in order to derive a preferred outcome - ie a process that is transparent and capable of replication by another party. Elsewhere ICLEI have noted that "there is no single 'correct' way to engage in sustainable development planning" (ICLEI, 1996: 7).

The LA21 initiative represents a classic case of the emergence of a new planning process and procedures in a situation where traditional planning did not respond. However, to a large extent, it also represents a case of 'reinventing the wheel' as the efforts essentially involved a reinvention of the planning process, not-with-standing the adjustments made for common deficiencies with the traditional planning process - eg citizen participation, use of local knowledge and expertise, partnerships for power sharing in decision making and implementation. An explanation for this outcome may be found in preliminary LA21 research from the United Kingdom where it has been demonstrated that there has been a definite

tendency to place LA21 within the remit of environmental departments and not the planning departments (Bond et al, 1998).

Perhaps the biggest criticism and the major concern of ICLEI's planning process is that it is not integrated into the formal decision-making processes of governments, eg statutory planning processes. In fact, in many respects, it cuts across statutory planning processes. This means that implementation is extremely difficult and it would be rare for LA21 outcomes to be achieved ahead of other competing recommendations and actions, particularly those derived through the normal planning process that was part of a community's formal decision-making process. This major deficiency has recently been recognised by a number of reviews into the implementation of the LA21 process and ICLEI's planning approaches. In a 1997 report to the Earth Council's Rio +5 Forum, ICLEI acknowledge that "during the past five years, the sustainable development strategies and projects of local governments have been isolated from overall municipal budgeting, local development planning, land use control, and economic development activities. As a result, sustainable development strategies, such as Local Agenda 21, have only resulted in significant changes in urban development trends in a limited number of cases" (ICLEI, 1997: 40). Surprisingly, no recommendations were made to overcome this problem. It was not until the release of a 1998 survey of its Model Communities Program (MCP), before ICLEI addressed the issue with recommendations to link the LA21 planning process to the statutory process and to the official planning process (ICLEI, 1998).

Reviewing the LA21 initiative the United Kingdom, Lafferty and Eckerberg, have considered the opportunity to incorporate LA21 planning outcomes into the various statutory plans as they come up for review. They note that this would be a significant step forward but that "it is likely to be several years before that significance can be tested by analysing the influence of LA21 on the statutory plan review process" (Lafferty and Eckerberg, 1998: 189).

Irrespective of these shortcomings, the LA21 planning process does offer some useful guidance and operational principles which can enhance the emergent planning paradigm, especially in the areas of greater community participation, higher degrees of cooperation in planning and management, community partnerships in implementation, and a broader philosophical base that embraces the emergent sustainability and environmental content deficiency of traditional planning. These issues are taken up in further detail in subsequent Chapters.

c. Integrated Catchment Management initiatives

Whilst not a new idea in Australia, the contemporary concept of resource management based on the hydrological catchment or drainage basin gained renewed interest from the 1984 NCSA (see Section 1.3.2). A priority national action of the NCSA (1984: 21) was to "take an integrated

whole of catchment approach to the management of water and related land resources". The concept has an even longer history in North America, dating from such initiatives as the 1914 Ohio Conservancy Act which facilitated the establishment of river basin management organisations (Mitchell, 1988: 78). Later notions of a specific integrated approach for land and water management were evolved from such initiatives as the 1930s Tennessee Valley scheme.

The literature now abounds with a variety of terminology which adds to the confusion surrounding this concept. The principle terms in question are: Integrated Catchment Management (ICM); Total Catchment Management (TCM); and Whole Catchment Management (WCM). The main confusion stems from the multiplicity of their contemporary use that can range from their original reference to a theoretical concept, to their use to designate a particular government policy program or initiative. The concept via all terminology, has been described as a philosophy, a process, a program, a (umbrella) policy, or a product (AWRC, 1988; Mitchell, 1991; Hamilton et al, 1992; Booth and Teoh, 1992; AACM International, 1995). Mitchell (1991: 8) sums up the earlier situation, stating, "integrated catchment management remains a vague and ambiguous concept for many people ICM is much like the concept of 'sustainable development'. Intuitively, most people can relate to the basic idea, but it is difficult to translate it into operational terms". Laut and Taplin (1988: 10), in describing the NSW government's TCM program comment "... a commendable policy of integrating bureaucratic activities within a catchment has been given the guise of TCM, which however politically acceptable, is confusing in its implementation to the wider Australian resource management community". This situation has not changed as evidenced by Johnson et al (1996: 303) who, quoting Born and Sonzogni, comment, "improving the practice of integrated management is also frustrated because in terms of measuring success, most of these efforts are immature and there is little consistent documentation regarding their efficacy". In a recent review of the effectiveness of catchment management planning in Australia, the reviewers concluded that "more than a decade of experience in integrating water and land resource management in Australia confirms that the *philosophy* of integrated catchment management is appropriate. Communities and their governments in most parts of Australia have identified the *products* that they seek from natural resource management activities. The catchment management planning *process* - which links the philosophy and the product - remains elusive throughout Australia" (AACM International, 1995: 1).

What has been witnessed in the Australian context during the 1980s, is the realisation that resource management issues are linked to each other and the wider environment and that they cannot be considered in isolation. This was exacerbated by the unsatisfactory fragmented legislative, administrative and institutional arrangements for resource management, which characterised most governments, (Johnson et al, 1996). This led to the articulation of calls for

resource management to be undertaken on a more holistic or integrated fashion, hence, the emergence of the ICM concept at this time provided a suitable philosophical and geographical response. When this response was transferred into the realms of bureaucratic resources management functions and responsibilities, it was seen as a possible mechanism for policy and activity coordination within and between management agencies (Laut and Taplin, 1988; Burton, 1988; Mitchell, 1991; CoA, 2000). The need to incorporate public input into the management activities was later acknowledged and attempts were subsequently made to introduce such initiatives into the management process (Mitchell, 1991; CoA, 2000). Yet later, there was in some quarters, an understanding that a more integrated *planning* approach would be required to effect the coordination and integration desired.

New South Wales and Western Australia became the first state governments in Australia to adopt ICM policies, doing so in September and November, 1987 respectively. On the other hand, New South Wales was the first state government to formally enact ICM legislation in 1989 - the *Catchment Management Act 1989*. Its Total Catchment Management (TCM) program had the stated primary aim of providing an integrated 'catchment wide' approach to natural resource management and planning (NSW State Govt, 1991). The Queensland government went the non legislative route and adopted an ICM program in 1990. However it would be some ten years before a strategic alliance could be attempted between the ICM policy initiative and the statutory planning process in Queensland. These circumstances are discussed subsequently towards the end of this section.

The rationale for integrated catchment management was based on four principal considerations, namely the acknowledgment of: the interdependence of natural systems; the vertical and horizontal fragmentation of public resource management agencies; the application of multiple objectives; and the seeking of an enhanced standard of living for people living in a region rather than simply resource management, (Mitchell, 1988). The principal characteristics common to most ICM/TCM programs adopted by various State governments throughout Australia included:

- a clear undertaking to effect integrated resource management of water and associated land assets, (Burton, 1988; Laut and Taplin, 1988; Teoh and Booth, 1989; Mitchell, 1991; Junor, 1992; AACM International 1995; Johnson et al, 1996; CoA, 2000);
- a focus commonly at the local or regional scale, via a systems approach based largely on the catchment, (Burton, 1988; Teoh and Booth, 1989; Mitchell, 1991; Junor, 1992; CoA, 2000);
- a key emphasis on a cooperative partnership approach between all levels of government, farmers, conservation groups and the community, (Laut and Taplin, 1988; Burton, 1988; Teoh and Booth, 1989; Mitchell, 1991; Junor, 1992; CoA, 2000);

- a definite role for community involvement, from issue identification through to on-the-ground management, (Mitchell, 1988; Teoh and Booth, 1989; Mitchell, 1991; Junor, 1992; CoA, 2000).

However, the anticipated uptake of the ICM philosophy was slow and uneven. This to a large degree can be attributed to the different points-of-view, challenges, and degrees of confusion that arose in regard to:

- whether the prime function was indeed "management" as implied in the original title for the program, or was it in fact "coordination", a far more palatable and less threatening title to other traditional management agencies (Mitchell, 1991);
- confusion over defining terms such as "comprehensive watershed planning and management" and "unified river basin management" in both a conceptual and an operational sense (AACM International 1995; Johnson et al, 1996);
- integration was viewed by some agencies as a threat to their traditional roles and responsibilities, as well as to their independence (Mitchell, 1991);
- the role of an internal state government coordinating agency - leading to resentment from other agencies and from the public-at-large (Mitchell, 1991);
- confusion as to whether it is a "top down" or a "bottom up" approach. Some agencies and local governments see ICM as a "top down" process ((Mitchell, 1988; Mitchell, 1991; McDonald and Shrubsole, 1996);
- an absence of a universal acknowledgment of a legitimate role for local government, and a lack of a firm commitment to engage and encourage local government participation, particularly as equal partners with State agencies (Mitchell, 1991; Junor, 1992; AACM International 1995);
- the uncertain relationship with the statutory planning process (Junor, 1992; AACM International 1995; CoA, 2000);
- a preoccupation with the search for the 'perfect' institutional model and for a universally applicable solution (Mitchell, 1988);
- how a whole-of-government approach to on-the-ground management across agencies within the spatial context of a catchment would be achieved - eg independent state body verses other cooperative means (Mitchell, 1991; AACM International 1995);
- the professional bias of resource managers and other professionals, (Johnson et al, 1996); and
- the uncertain and ill-defined relationship between ICM, Landcare and planning (Junor, 1992; AACM International 1995; CoA, 2000);

Mitchell (1991) argued that the ICM product should compliment regulatory instruments such as statutory plans and policies. However, he has noted that in the Western Australian experience,

there was an earlier emphasis on addressing the philosophy and process of ICM at the expense of deriving a tangible ICM product, in order to secure an organisational cultural change towards cooperation and coordination. As a consequence, the early lack of a product led to uncertainty about the objectives of ICM and a blurred distinction between ICM catchment 'plans' from the formal statutory plans and policies of State planning agencies and environmental protection agencies. Burton (1988: 55) on the other hand believes that the early lack of application of the TCM policy to major river catchments in NSW was because "it is simply too hard (as) land use planning and natural resource management are State Government functions, undertaken by a range of conventional and essentially single-purpose agencies". Whilst he concluded by calling for the establishment of "river basin authorities" with statutory comprehensive management functions, he also noted that this would "seem quite unlikely in the present political and administrative climate then it must be accepted that catchment management must be limited in scope and pragmatic in application if it is to be successful" (Burton, 1988: 56).

In its original forms, this concept was based on a resource management philosophy and had strong resource management objectives, particularly for the management of land and water resources, and including water quality (Laut and Taplin, 1988). Conacher and Conacher (2000: 13) articulate a clear distinction between resource management and environmental management, noting that "there is often a clash of management objectives between the two management groups". The principal distinguishing characteristics between both management approaches that have been identified by Conacher and Conacher are summarised in Table 3.1.

Whilst Table 3.1 identifies a considerable degree of difference between the philosophical bases of resource and environmental management, Conacher and Conacher (2000) do acknowledge that these differences are closing, due largely to processes resulting from the introduction of the ESD concept.

Table 3.1: Distinction between Resource and Environmental Management Approaches

Characteristics	Resource Management	Environmental Management
Prime focus	Resource system	Resource system and its environment
Management objectives	Often single-purpose (specific, immediate and clearly defined)	Multi-purpose (less specific, immediate and clearly defined)
Principal concerns of managers	Single or simple solutions to problems within resource system only (often embedded in engineering and economic terms)	Adapting a complex environment to future uncertainties and constant change
Manager's perception of their operating environment	Undertaking a rational process under conditions of certainty, with complete knowledge and predicability	Operating under conditions of uncertainty, with incomplete knowledge and unpredictability
Planning solutions	Short term based on minimal maintenance, or exploitation of resources, with limited options for flexibility or adaptation to future uncertainty	Short to long term, with a range of options for flexibility or adaptation to future uncertainty
Recognition of community goals and needs	Only considered if needed for the specific resource system objectives	Fundamental to the setting of objectives
Skills base of managers	Relatively narrow - focused on specific objectives of the resource system	Broad-based skills - need to address issues across biophysical, social, economic and political environments

Based on Conacher and Conacher, 2000

As noted earlier, the ICM concept is based on strong resource management objectives. It also saw integration of key issues and variables as the preferred approach as opposed to the 'comprehensive' approach that tried to capture all issues and variables. However, comprehensive planning, or indeed integrated planning, was not necessarily seen as its prime purpose. In fact it would appear that the term "planning" was used in ICM literature in the very generic of senses. Laut and Taplin (1988) have reported that in other cases, it was concluded that local government statutory planning was limited by contemporary legislation and consequently was of limited value as a tool for catchment management and planning. Specifically, they considered that land use planning had little to offer as traditionally, it had an urban orientation and rural land use was not dealt with consistently nor at a sufficiently detailed level. They cited the typical zoning type statutory planning procedures as too general and largely ignorant of land management issues. This led them to conclude, "the term 'planning' therefore has been abandoned in favour of 'management' to avoid confusion with land agency planning (Laut and Taplin, 1988: 5). However, it remains obvious that the degree of strategic alliance and alignment between ICM and the statutory planning process has varied between States. Although this still remains largely the case, there have been an increasing number of attempts to incorporate the ICM principles and policies into statutory planning. Junor (1992: 8) has described the NSW approach, commenting, "it is essential that the principles of TCM are embodied in the day to day exercise of environmental planning and environmental review

(as) land use planning seeks to find the best way of resolving conflicting demands on the land". In a pragmatic sense, Junor has argued that "local government is in a unique position to directly influence the management of natural resources (it) needs TCM to assist with land use planning and to provide information on catchment issues. Conversely, TCM needs local government to assist in achieving catchment management goals (as) Local Environmental Plans provide an opportunity to implement TCM as they can identify and mitigate catchment issues which are specifically important in the area" (Junor, 1992: 9). The challenge remain - how to operationalise this concept of incorporating the ICM/TCM/WCM principles into statutory planning, particularly that undertaken by local government (Mitchell, 1991; Junor, 1992; CoA, 2000). At the national level, an Australian-wide review of catchment management planning puts these potential opportunities into context when it concluded that "there is potential at present to introduce integrated resource management processes into local government planning. More money will have to be spent on issues of a broader catchment nature to capture and hold the interest of local government" (AACM International, 1995: 20). However a recent review by the House of Representatives Standing Committee on Environment and Heritage inquiry into catchment management has concluded that "there was poor integration and coordination between catchment bodies and local government agencies. Catchment bodies may develop a catchment strategy while local government bodies may develop their own competing plans, and in addition, have the legal authority to ensure implementation through zoning and planning laws and by-laws" (CoA, 2000: 70).

Subsequent to the formal introduction of its ICM program in 1990, the Queensland government released its ICM Strategy in October, 1991. Queensland's non-legislative approach meant that "its success will ultimately reflect the ability of relevant public and private interests to affect required action voluntarily" (Johnson et al, 1996: 304). Essentially the Queensland ICM Strategy sought to provide "a framework for fostering cooperation and coordination between the many landholders and other resource users, community groups and government agencies involved in the use and management of land and water resources" (Queensland State Government, 1991: 1). It made provision for the establishment of Catchment Care Groups (CCG), and where these local groups "have been unable to gain enough community interest and support to effectively address interrelated land and water management issues", Catchment Coordinating Committees (CCC) could be formed with the approval of the Minister (Queensland State Government, 1991: 17). These CCCs were to provide forums for community input and discussion, with a prime function being the development and implementation facilitation of catchment management strategies. However the authors of the ICM Strategy acknowledged that "while catchment management strategies will not be legally binding they will provide guidelines and recommended policies and action plans which landholders and government agencies will be encouraged to use" (Queensland State Government, 1991: 20).

This was to be achieved by working "with, and through, existing organisations and agencies through goodwill and influence" (Queensland State Government, 1994: 3). Johnson et al (1996) note that CCCs have three options available for the implementation of catchment management strategies, namely:

1. voluntary adoption by landholders, resource users and the community;
2. recommendation from the Minister that government agencies consider the strategy when carrying out their normal statutory duties and functions; and
3. establishment by the Minister of a catchment trust or similar statutory authority to assume responsibility for a specific resource management matter within the legislative responsibility of the Minister.

Whilst a full review of the Queensland ICM program is not warranted for the purpose of this study, there are a number of major issues of relevance that need to be canvassed, namely:

1. The role of local government and the organisation of the Catchment Coordinating Committee (CCC): the original ICM Strategy saw the CCC membership representing "the major sectors of the community and government which are involved in or influenced by the management and use of land and water resources in the catchment drawn primarily from community action groups and government agencies in accordance with guidelines which ensure that the Committees do not become subject to the overriding influence of any agency or community action group" (Queensland State Government, 1991: 17). The specific guidelines for the formation of CCCs, did acknowledge the possibility of local government representation, specifically, councillors from local governments in the river catchment. However, it restricted local government membership to no more than twenty-five percent of formal members of the committee. It also stipulated that "CCC members do not necessarily represent specific groups in the catchment", hence, the interest of the local authorities could not be directly represented. In the case of large catchments containing a number of local government areas, not all councils could be represented under this model. From a survey of CCC chairmen and coordinators, the situation in regard to local government has been summed up by McDonald and Shrubsole (1996: 15) thus, "there was a widely held view that local governments, both politically and at officer level have not been involved effectively in the ICM process". Interestingly, the opportunity to rectify this situation was not taken up in the State Government review of its ICM and Landcare programs completed in 1997. This review made no recommendations in this regard, only noting that submissions to its discussion paper commented that "the role of local government in the delivery of services which are 'local' in nature, needs defining (and) a direct role for local governments has not been clearly defined other than being represented on the various Landcare and ICM groups" (Queensland State Government, 1997: 6).

2. The functions of the Catchment Coordinating Committee (CCC) and their relationship to statutory planning: as their title suggested, there was an obvious intention that these CCCs were intended to coordinate the policy and action activities of public and private stakeholders within catchments. However, the reality is that "Catchment Coordinating Committees will not have statutory decision-making powers and their decisions will not be legally binding on other government agencies and authorities" (Queensland State Government, 1991: 17). This nebulous state of affairs was further clarified by a later admission that, "a CCC may suggest a change to the town or strategic plan, but the local authority is responsible for making the decision" (Queensland State Government, 1994: 14). Consequently, it must be acknowledged that there are severe limitations and perhaps totally unrealistic expectations as to just precisely what they can effectively coordinate under these voluntary arrangements? At best, they can only coordinate at the very lowest level, ie the individual property level. Here again, at this level, there appears to be further confusion as reported by McDonald and Shrubsole (1996). In a survey of catchment coordinators, they have noted that there was disagreement between coordinators as to what coordination and advisory functions they or their CCCs should be involved in. Not surprisingly, McDonald and Shrubsole (1996: 15), note that "at present the ICM program is largely limited in scope to a relationship between farmers and the Department of Natural Resources".

However, any proposal to achieve solutions through statutory planning and management means will need to be contrasted against one of McDonald and Shrubsole's (1996: 15) key findings which highlighted "the respondents universal view that there is too much government regulation that landholders in particular will resist any solution to ICM problems that involve state and national government regulations".

The current SEQ 2001 Regional Framework for Growth Management (RFGM) planning exercise incorporates policy initiatives seeking to protect and improve water quality in the region. It is attempting to achieve these policy objectives under the 'umbrella' of its principal recommendation, which acknowledges that, "a voluntary cooperative and coordinated partnership approach to growth management in South East Queensland between all spheres of government and the relevant community sector groups must be continued and fostered" (RCC, 2000: 11). Earlier policy papers leading into this RFGM process had recommended the development of policy to address the coordination and administrative arrangements for the management of rivers and coastal areas in the region. For the protection of riverine processes and ecosystems, as well as the maintenance of water quality, it was recommended that a Regional Water Resource Management Strategy should be prepared, involving local government, and that it be implemented on a catchment basis. This strategy was to be based on the ICM and ESD principles. It was recognised that "local government authorities have a major

role and responsibility, in South East Queensland land use planning (*and that*) the incorporation of consistent and comprehensive management principles and planning guidelines into Strategic Plans and Town Planning Schemes would result in improved environmental protection of riverine and wetland ecosystems" (RPAG, 1993a: 44).

More recently, there have been growing attempts to bridge the gap between Queensland's ICM efforts and the statutory planning processes through which the majority of mainstream resource and environmental management decisions are made, particularly in regard to freehold lands. A recent three year project, "*Incorporating Integrated Catchment Management into Local Government Planning Schemes*", has been completed using four case studies, namely the local authorities of Bulloo, Hinchinbrook, Noosa, and Warwick Shires. During the recent review or preparation of the town planning schemes for these four case studies, their planning process incorporated additional ICM processes to identify ecological priorities for incorporation into the schemes. This was achieved through a partnership between the traditional planning agents within the shires and the wider catchment community. Subsequent stages will involve the preparation and dissemination of material to promote this approach to the wider local government planning community within Queensland. Whilst a survey of the members of the four Reference Groups for each catchment has concluded that the case study process led to improved understanding of selected catchment issues, the majority of respondents felt that the cooperation and agreement between councils and catchment committees was only satisfactory and required some improvement (Queensland State Government, 1999: 4).

The principal short and long term vulnerability to the ICM initiative lies in the lack of financial commitments from governments. As the AACM review identified, "most projects reviewed relied heavily on Commonwealth investments through the National Landcare Program (NLP) (*now National Heritage Trust*) however few communities or state agencies understood that the Commonwealth commitment to the NLP was never meant to be sustainable" (AACM, 1995: 6). This vulnerability may in fact provide the imperative to permanently incorporate ICM/TCM/WCM philosophies into statutory planning³.

d. Relationship to local government and statutory planning

Both the LA21 and the ICM cases represent classic contemporary examples of the development of resource management and parallel environmental planning systems that were established

³ The popular use of the original ICM and TCM terms to designate government programs has 'corrupted' their original theoretical definition. This form introduces policy elements that have no theoretical basis or relationship to the theoretical concept. To avoid further confusion in this study, those terms will be used in reference to government programs whilst the term "Whole Catchment Management" (WCM) will be reserved for theoretical discussion of the concept.

outside of traditional planning and the existing statutory planning systems. The main reasons for this appear to be four fold, namely that proponents for change:

1. were not aware or familiar with the existing planning systems;
2. did not trust or have confidence in the existing planning systems;
3. wished to safeguard their professional interest and promote their own discipline/field; and/or
4. operated in a separate bureaucratic compartment from traditional planning.

This was not helped by the poor, indeed in many cases, the absent responses from the planning profession to these emerging environmental challenges. When there was a planning response, it was often late and disappointingly uneven. This is illustrated in Figure 3.4, which contrasts the principal global and national responses and initiatives with those of a 'local' Queensland nature. As previously noted (Section 3.3.4c), the *Local Government (Planning and Environment) Act of 1990* was the first time that the environment was recognised in planning legislation in Queensland. It would be a further seven or more years before ESD principles were incorporated into planning legislation (ie the IP Act). In both these cases there was a considerable lag from the original global and national calls to adopt these environmental philosophies in management, (ie the NCSA and the Agenda 21/IGAE/NSESD respectively). As illustrated in Figure 3.4, the response from allied fields and disciplines was timelier with LA21 and the ICM initiatives being cases-in-point.

Cases such as the LA21 and ICM initiatives also represent responses to many perceptions, past experiences and disappointments with respect to traditional planning and local government generally. As discussed, they can be seen as attempts to redress perceived and real past deficiencies such as:

- a lack of suitable philosophical perspective to address emergent environmental management issues;
- a lack of community involvement in the planning process and decision making processes);
- a lack of grass roots (community/local government) ownership;
- dissatisfaction with the inflexibility of the regulatory approach that has characterised statutory forms of local government planning;
- an emphasis on the urban environment at the expense of the rural issues;
- a parochial and inwards focus by local government; and
- a lack of confidence (or trust) in local government management and decision-making processes.

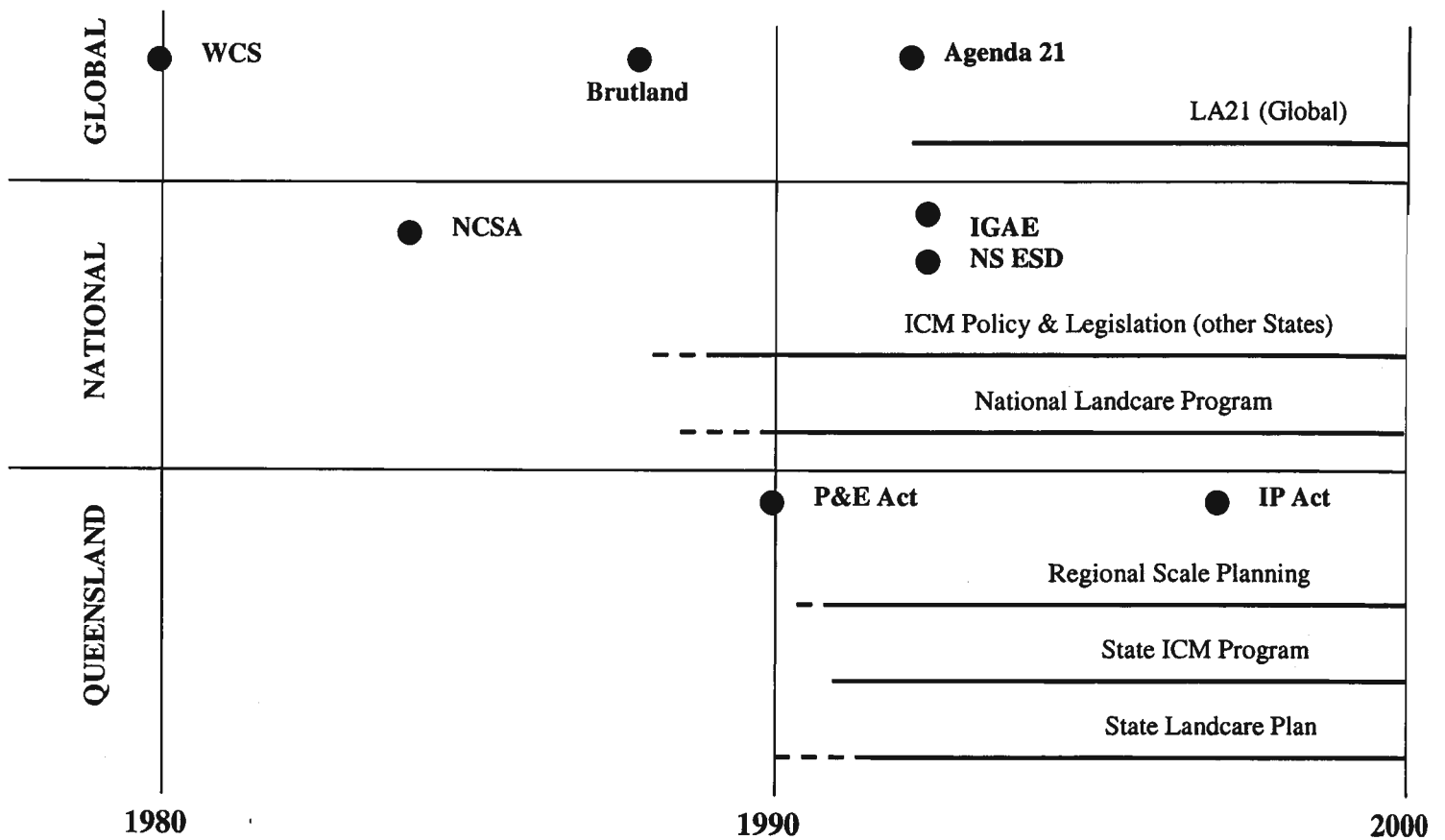


Figure 3.4: Recent Developments in Resource & Environmental Management & Environmental Planning

Consequently, the overall consequence in most respects, has been the development of alternative management systems which have include 'crude' attempts at planning, and which essentially represent cases of the 'reinvention of the planning wheel'. Conacher and Conacher (2000: 317) believe that Landcare and catchment management initiatives have "developed crucial links between rural and urban planning in recent years (by addressing) some of the serious gaps which existed previously in approaches to natural resources management". However, they go on to note that Landcare and catchment management "remains essentially *de facto* planning methodologies", with a major deficiency being the absence of statutory backing and formal structural arrangements. In a real sense however, both the LA21 and ICM examples, represent classic cases of their advocates not understanding that systems that exist outside of the statutory decision-making processes stand little chance of contributing to policy development, development of guidelines etc, let alone influencing the management process.

Typical of the advise that overarched these calls for greater integration between environmental management and statutory planning, is Kenny and Meadowcroft's claim, that the principle aim underlying their edited treatise on *Planning Sustainability* was "to encourage advocates of

environmental politics to consider whether their arguments may gain in analytical precision and normative power if 'planning' - in all its different senses - were more central to their thinking" (Kenny and Meadowcroft, 1999: 1). Hence it should be argued that the key to a way ahead, lies not only in a philosophical enhanced planning process but one within the existing traditional planning framework. This emphasis on 'process' is reinforced by the AACM review that highlighted "it is the *process* - linking philosophy and product - which is generally missing in catchment management planning in Australia. The key implementation theme which consistently emerged from the review was the absence of a process to plan, implement, and evaluate integrated natural resource management activities" (AACM International, 1995: 5). This 'process' is precisely what traditional planning has to offer, albeit in a modified form. This theme is developed further in Chapters 5 and 6 and evaluated in Chapters 7 and 8. The previous discussion has noted the diminishing philosophical gap between resource and environmental management, along with the attempts and considerations to integrate recent initiatives such as LA21 and ICM with statutory planning. It could be argued that the initiatives and responses discussed thus far and illustrated in Figure 3.4 represent a natural progression towards the 'illusive' integrated model that has dominated the literature to date. The future relationship with statutory and traditional planning remains a key issues in this regard. This issue will also be explored in Chapter 5.

3.3.6 An Alternate Planning Region

a. The catchment as a planning region

Landres et al (1998: 59), quoting Pickett and Ostfeld, point out that "landscape-scale stewardship requires landscape-scale planning and management (*arguing that*) a management style that focuses solely on particular isolated parcels of land is likely to fail to produce desired long-term outcomes because the health and productivity of all ecosystems are contingent on the larger cultural and ecological landscape of which they are a part". It has previously been noted that the drainage basin, watershed or catchment was seen as a suitable ecological landscape unit for planning and management from the early 1990s, (see Sections 1.2.3 and 1.3.1). Major documentary inputs into the 1992 Earth Summit such as "*Caring for the Earth*" considered local governments as key management units, as well as advocating for the adoption of the drainage basin as the unit of management in integrated approaches to land and water management (IUCN/UNEP/WWF, 1991: 32). To McHarg (1992) the river basin is describable, united by water and permanent. To Steiner (1991) the river basin is ideal for analysis because the flow of water that provided the linkage throughout the catchment could be easily visualised. Yet later, Steiner et al (2000: 130) advocated the watershed as the appropriate unit for ecological planning, commenting, "the role drainage systems play in the location of wildlife habitat and human settlements can be understood more readily than at local, or,

conversely, even more global scale". Yaro (2000: 23) on the other hand considered that "metropolitan regions are finite places with geographic boundaries derived from topography, watersheds, coastlines, farmlands, regional parks, and river basins". Steiner et al (2000: 144) provide the following tabular summary of their rationale for a watershed approach to planning, arguing that "a watershed approach implies intergovernmental coordination and management of sensitive areas which will help ensure that natural functions and values are maintained".

Table 3.2: Summary of Rationale for Watershed Approach to Planning

Criterion	Watershed Characteristic
Functionality	The watershed is a <i>functional region</i> established by physical relationships.
Biophysical linkages	The watershed approach is logical for evaluating the <i>biophysical linkages</i> of upland and downstream activities because within the watershed they are linked through the hydrological cycle.
Holism	The watershed approach is <i>holistic</i> , which enables planners and managers to consider many facets of resource development.
Environmental impact	Land-use activities and upland disturbances often result in a chain of <i>environmental impacts</i> that can be readily examined within the watershed context.
Economics	The watershed approach has a <i>strong economic logic</i> . Many of the externalities involved with alternative land management practices on an individual parcel are internalised when the watershed is managed as a unit.
Socio-cultural context	The watershed provides a framework for analysing the effects of <i>human interactions</i> with the environment. The environmental impacts within the watershed operate as a feedback loop for changes in the social system.
Compatibility	The watershed approach can be <i>integrated with or be part of programs</i> including forestry, soil conservation, rural and community development, and farming systems.

(Source: Steiner et al, 2000: 144 - adapted from Easter and Hufschmidt, 1985)

Tinley examined potential ecological regions of Western Australia as the preferred basis for coordinated planning and management of conservation and development. He concluded that "to avoid the pitfalls of studying or trying to resolve environmental problems in a piecemeal unrelated way, it is vital that they be assessed within the contextual setting of their ecological area of influence and not in isolation a minimum natural functional area such as a river catchment" (Tinley, 1986: 221). Tinley supports this conclusion by arguing that the hydrological unit (catchment or drainage basin) is the only kind of ecosystem that can perform as a principal organisational template for coordinating conservation and development as it satisfies the region delineation criteria, namely:

- an ecological unit that correlates with the minimum area encompassing all the process and response relationships of an ecosystem, (ie the combined interactions between physical, biological and human activities);
- simultaneously allowing for the recognition of the unit's larger economic role, but within the constraints and opportunities for multiple human activity related to the ecosystem;
- the unit must be recognised as the single unifying system, common to the greatest number of interests and objectives; and

- the ecological unit must be practically identifiable in the field, on maps and air photographs.

Tinley notes that whilst the river catchment can serve as a fundamental basis for planning and management, it also provides a natural unifying basis for the organisation of resource data, which can facilitate analytical and predictive frameworks. These frameworks in turn, can generate the development of principles and policies to guide future action within the limits of the catchment's environmental attributes. He further argues that the catchment approach has the potential to provide a systems approach not only for hydrological modelling purposes, but importantly, it "provides a method for indicating the future consequences of present policy decisions, for anticipating future problems and for designing alternative solutions" – all important elements of the planning process (Tinley, 1986: 223).

Aplin et al (1999: 112) reach the same conclusion pointing out that "the ideal natural region for dealing with most such land management problems is the stream catchment (*but*) the biggest problem with catchments is often that their boundaries do not match political boundaries, and where this occurs large multi-state organisations may need to be established". Whilst they cite the Murray-Darling Basin Commission (MDBC) as a "successful" precedent and a "sound" example for such an organisation, their deliberations do not extend further to the more common lower order catchments of regional significance, the subject of this study. So et al (1986), in a review of regional planning practice in the USA, identified the employment of six different types of planning regions, one of which included the 'multistate river basin'. They noted that this type were large watersheds of major rivers or complex coastal drainage basins, subdivided by smaller political units which bore no relationship to each other. As the area of these river basin regions does not coincide with the jurisdiction of any one level of government, nor any single purpose agency, So et al concluded that joint action was a necessary requirement for regional management, which in the USA case included river basin commissions and committees.

For similar reasons, various resource management agencies have also adopted the catchment as the basic unit for management and policy development under TCM and ICM programs as previously identified in Section 3.3.5c. The *National Strategy for the Conservation of Australia's Biological Diversity* had noted that there was an increasing trend towards catchment management on a regional basis which "allow emphasis on regional environmental characteristics and needs, promote community participation and encourage intergovernmental cooperation" (BDAC, 1992: 17). The committee subsequently called for conservation activities to be strengthened through approaches that managed biodiversity through a regional basis. The Australian government's 1995 report to the UNCSD on its implementation of Agenda 21 commitments stated that "Australian Government's are increasingly encouraging natural resource planning and management systems that are based on a regional scale using natural

rather than statutory boundaries (*where*) a region may be based around a major catchment " (CoA, 1995: 13). The latest call for the adoption of a regional approach comes from a 1999 discussion paper titled: *Managing Natural Resources in Rural Australia for a Sustainable Future*. These calls are reinforced by the recent House of Representatives Standing Committee on Environment and Heritage inquiry into catchment management who argue a case for the adoption of the catchment management approach on the basis that it combines the necessary ingredients to address national environmental problems. These include: it is based on natural geographic divisions that are readily understood and already accepted; it provides a basis to link communities sharing similar interests into regions of interest that can build stronger coordinated approaches to environmental management; and there is widespread community acceptance of the approach and existing infrastructure (CoA, 2000).

Contrary views to the employment of the catchment have come from a number of quarters. For example, an earlier report (Tucker, 1982) which examine Queensland's one and only experience with a River Basin Authority - the Burdekin River Authority (1950-1980), reached the opposite conclusion. The report recommended against adopting the river basin as the basis for establishing local statutory authorities or for water investment planning and analysis at the regional level. From a pragmatic point-of-view, Steiner also had concerns regarding the use of catchments for planning purposes. He noted that "drainage basins and watersheds, however, are seldom practical boundaries for American planners. Political boundaries frequently do not neatly conform to river catchments, and planners commonly work for political entities planners who work for cities or counties are less likely to be hydrologically bound" (Steiner, 1991: 12).

This view is given additional weight by Forman who does not include the drainage basin in his spatial hierarchy of land that only included: planet; continent; region; landscape; and local ecosystem. Forman considered that drainage basins varied too widely in size, and they were often poor boundaries for delimiting animal, human and wind-driven flows and for protecting home ranges, aquifers, ridges and viewsheds. Whilst recognising their use as systems of "surface-water-driven processes", he argued that "although boundaries determined by natural processes, such as drainage basins and bioregions, are theoretically optimum, it is not wise to wait for society to redraw the land" (Forman 1995: 14). Advancing the landscape ecology cause, Forman (1995: 14) concluded that "to accelerate the use of ecology in design, planning, conservation, management and policy, we must use regions and landscapes that balance and integrate natural processes and human activity".

The imperatives for an integrated approach to catchment management have previously been noted, along with the need to ensure that "policy responses must consider the overall picture at

the level of catchments and biophysical regions and have a cross-sectoral approach" (SoEAC, 1996a: 10-13). That document further argued that the aim of catchment management is to repair catchments and to prevent undesirable changes in land use. However, it is local government who has the prime responsibility for the management of land use, principally through, although not exclusively, the exercise of their statutory planning functions. Consequently, it will be essential to fully involve local government in any subregional planning and management initiative at the catchment level. This challenge was also identified by the AACM review into catchment management planning that concluded, "most activities reviewed experienced difficulty in coordinating many different local governments. An integrating process which includes local government is important for the success of catchment management planning" (AACM, 1995: 10).

b. Regional significance

Many lists of regional issues including those described above have merely been intuitively derived, usually by consensus. Unfortunately, the literature is relatively devoid of objective tests for regional significance. Natural and cultural landscape elements of a region can attain regional significance for many and varied reasons which can change from region to region. Low Choy (1994) points out that the properties of these landscape elements may exist singly or in combination to confer a degree of regional significance on these features, places or items. The circumstances where regional significance can be assigned could include situations where the element: straddles two or a number of local authorities; is a venue where people travel to, from within or from outside a wider than local area to visit or to use; incorporates a catchment beyond the local scale; lies between "local" and "national/state" levels in the hierarchy of spatial units or elements; presents a regional identity and a regional consciousness exist; is visually dominant over a wider area beyond the local scale; presents beyond the local scale due to its size and/or capacity; is unique in the wider (regional) community as opposed to the local community; has been formally evaluated through some universally acceptable process or measure of significance; and provides a high degree of awareness and agreement in the regional population as to its significance.

Most east flowing Australian river systems and their catchments are commonly characterised by most, if not all, of these situations and consequently, under these circumstances, they are considered to be of regional significance.

Further weight to the argument for the need to address the issue of regional significance, as well as for a more objective manner of application, comes from the New Zealand *Resource Management Act 1991* as amended. This legislative initiative, whilst giving a degree of prominence to the concept of 'regional significance', is silent on its interpretation. For example,

Part IV s 30(1)(b), in detailing the functions, powers and duties of local authorities, assigns responsibility to regional councils for "the preparation of objectives and policies in relation to any actual or potential effects of the use, development, or protection of land which are of regional significance" (RMA, 1991). Part V s 62(1) in dealing with the content of regional policy statements, also addresses the undefined issues of regional significance. NZ Canterbury Regional Council (1993) has attempted to address this definitional deficiency by suggesting the following factors to evaluate regional significance: identified in a national policy statement; it is beyond the resources of a district or city council to deal with; it occurs across one or more territorial boundaries and there will be net benefits in dealing with it in an integrated way; concerns something of value to the wider region; it is considered by local indigenous group to be of greater than local significance; it is significant in a wider social, economic or scientific context; and it tends to be cumulative and has the potential to occur across boundaries.

Within the Queensland context, the *Integrated Planning Act* refers to regional dimensions which are the subject for coordination and integration in local government planning with local and state dimensions (IPA 1997, s 2.1.3[1][a]). A regional dimension is defined in the Act as a dimension which a regional planning advisory committee report has made a recommendation on, or, one that can best be dealt with by the cooperation of two or more local governments (IPA 1997, s 2.1.4[3][a, b]). Although it is not explicit, it would appear that regional issues can be accounted for, and that each local government planning scheme has to take these into account and cannot be inconsistent with regional recommendations. Further opportunities potentially exist under the banner of 'State interest', where the Minister has to be satisfied that a planning scheme has coordinated state and regional dimensions (IPA, 1997: Schedule 10).

c. Challenges for catchment-based management

The achievement of relevant but integrated policy, along with its associated collective set of responsibilities and accountabilities for a planning administration unit, (in this case a region), firstly requires the ability to conceptualise, then the mechanism and procedures to be able to consider the whole sequence of interrelated activities and actions within the system. As previously noted, all of these system approach requirements can be met by a planning region that is based on a river catchment. However, by-and-large, this has not been possible or sought after in the past. Instead, it has been dominated by singular approaches to resource use assessments and allocations, and isolated policy development for singular issues. The achievement of the desired levels of integrated policy within natural catchment units has been constrained largely by two sets of historical procedures, namely:

1. the artificial selection of natural features (eg river banks) for management and planning unit boundaries as well as for property boundaries; and

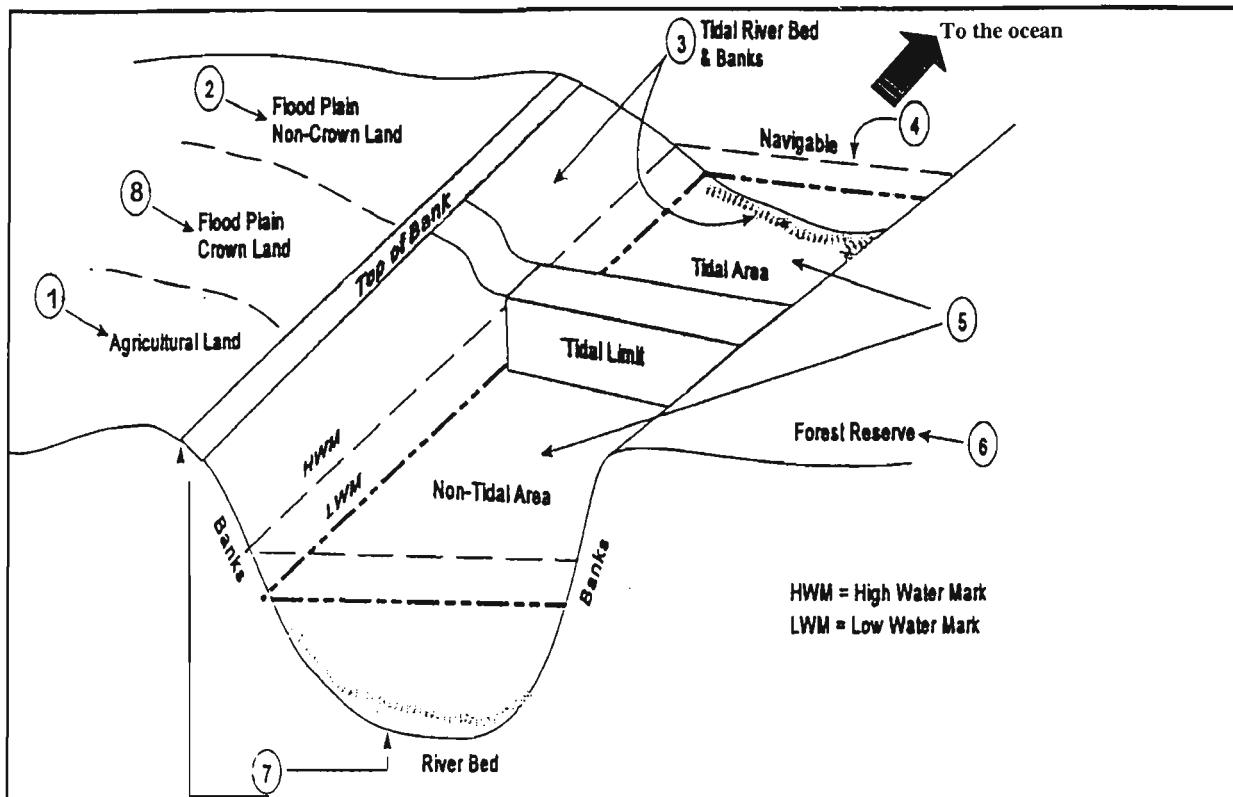
2. the artificial subdivision of the natural catchment into a number of administrative and management units.

The existing land tenure system and the assignment of administrative and stewardship (ownership) responsibilities to single government agencies has not facilitated the integrated approach to management and policy development in catchments. Further complications to the problems of land tenure arise from the cadastral system utilised by surveyors and the bureaucratic land titling system, which delineates real property boundaries artificially as geometric derived lines, usually using river banks, and at worst, central lines of natural features such as river channels. Such a procedure assumes the river to be a static system and takes no account of natural stream dynamics. Similarly, almost as an accident of history, government areas for administration and management, particularly local government areas, have been artificially delineated on the basis of the existence of these natural features in the landscape. It is all too common to find examples where rivers and stream channels have been utilised as the boundary between administrative areas - the policy making and management determination units. They were divided in this manner purely for administrative convenience and as a result, they bisected natural ecosystems and the resultant administrative units bare no resemblance to present environmental management imperatives. Knight and Landres (1998: 1) note "administrative boundaries almost always fragment a landscape, disrupting the ebb and flow of individuals and ecosystem processes".

Two specific examples, relevant to the research question and the case study serve to illustrate these points. Figure 3.5 and 3.6 illustrate the evolved complex management arrangements within the Queensland context for two of the previously recognised environmentally sensitive areas (ESAs)⁴, namely watercourses and their riparian zone and the coastal zone. It is evident from these diagrams that much reliance is made on the main geomorphological structural features, such as high and low banks, high and low water levels in the tidal reach, and the tidal limit to delineate agency responsibilities. The highly compartmentalised and fragmented management circumstances evident from these illustrations demonstrates the significant challenges facing planners and environmental and resource managers who seek an integrated, uniform and consistent set of guidance, policy determination, or use approval procedures. The achievement of these objectives is further hampered by the plethora of policies, legalisation, regulations and administrative approvals process and procedures that have been subsequently developed in isolation, within each separate administrative authority for its own respective area of responsibility. Further complications for environmental management arise from the land tenure system where different agencies (including local government) have been assigned separate sets of responsibilities for specific tenure types. Coupled with the current planning

⁴ The management regimes depicted in Figures 3.5 and 3.6 are the situation that existed towards the end of the case study period of review (ie the late 1990s).

system, this fragmented approach to the assignment of responsibilities (and the often jealous defence of 'territory' by the various resource management agencies), does not readily facilitate an effective and integrated, nor cooperative approach, to environmental management of these landscapes.



1) SPP 1/92 "Development and Conservation of Agricultural Land" set out criteria for identifying good quality agricultural lands in statutory planning scheme. EPA assumed responsibility for agricultural activities that may affect or impact on the natural environment such as agricultural run off, under the <i>Environmental Protection Act 1994</i> . DNR and DPI were involved in non-statutory planning activities for agricultural lands.
2) Local authorities had responsibility for the management of non-crown (freehold) land. This responsibility was governed by the <i>Local Government Act 1993</i> and the <i>Integrated Planning Act 1997</i> , which were administered by the DCILGP.
3) River banks in tidal areas were the key responsibility EPA under the <i>Coastal Protection and Management Act 1995</i> . Tidal areas were the responsibility of EPA under the <i>Environmental Protection Act 1994</i> .
4) DoT was responsible for the management of boating activities along the entire river (in tidal and non-tidal areas) under the <i>Transport Operation (Marine Safety) Act 1995</i> .
5) Key agency responsibility for fisheries within the river belonged to the QFMA, conferred by the <i>Fisheries Act 1994</i> . Management responsibility was shared in non-tidal areas with DNR and in tidal areas with DPI.
6) Forest reserves were managed by DPI for timber production along rivers in accordance with the <i>Forestry Act 1959</i> . These activities were licensed and monitored by DNR.
7) Key agency responsibility for the protection and management of river bed and banks in the non-tidal areas belonged to DNR under the <i>Water Resources Act 1989</i> . Responsibility is shared with the DoE for the tidal stretch.
8) Management of flood plains on crown land was the overall responsibility of the DNR under the <i>Land Act 1994</i> . Although other state agencies may have activities within the flood plain area (and are responsible for their actions with respect to those activities), DNR maintained key agency responsibility for the management and conservation of the natural resource environment.

Figure 3.5: Management Responsibility for Queensland Waterways and their Riparian Zones (late 1990s)

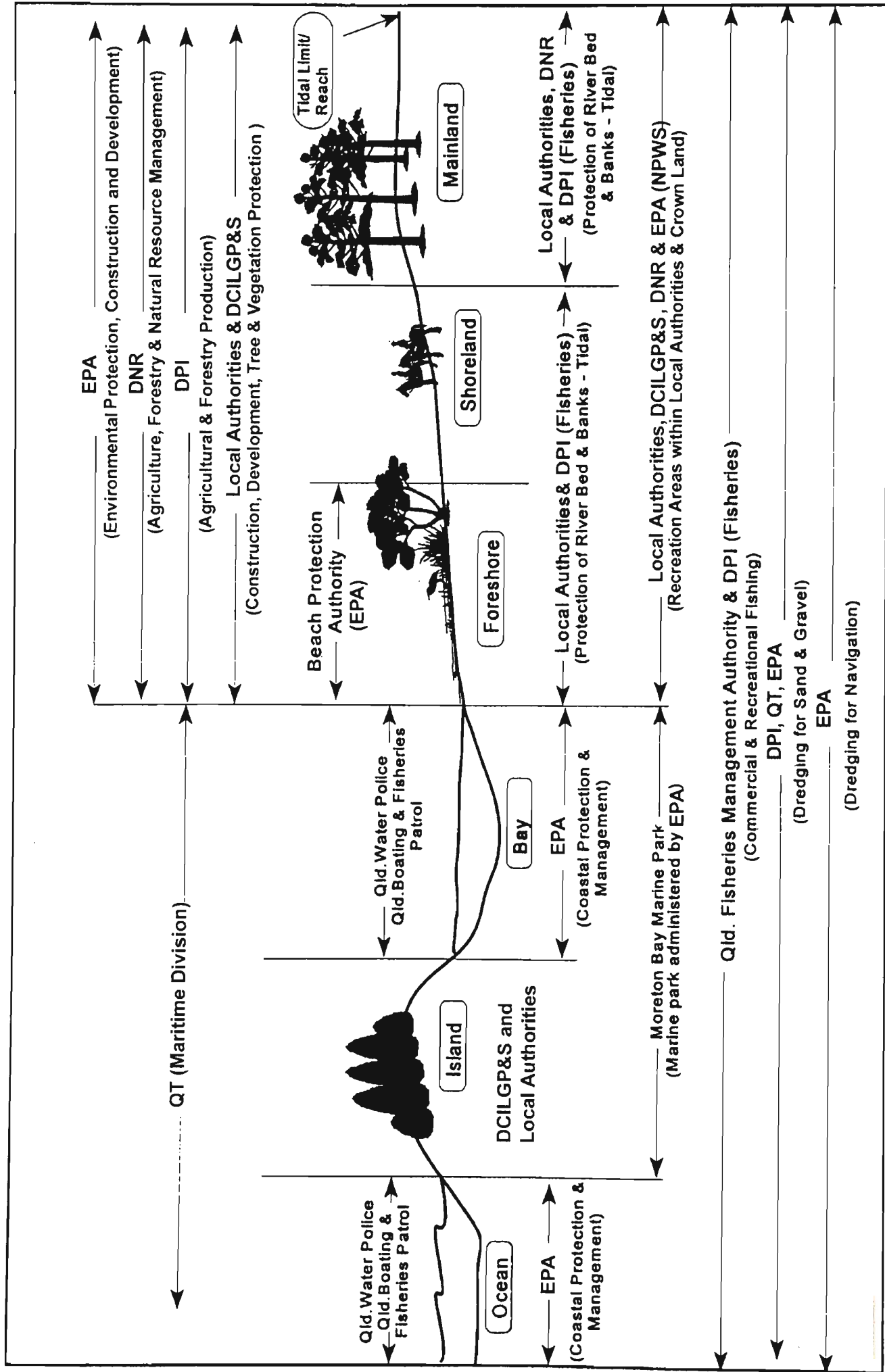


Figure 3.6: Management Responsibilities for Queensland Coastal Zone (late 1990s)

This highly compartmentalised and fragmented management arrangement is further complicated by the uncoordinated and confused regionalisation of state government departmental functions and activities that was initiated in the early 1990s. Unfortunately, this appears to have occurred without a whole-of-government perspective and the various regional boundaries chosen appears to merely to suit the convenience of the individual departments concerned. As a result, there is little if any correspondence of regional boundaries nor correlation of regions from one department to the next. There are no mechanisms for inter or intra regional coordination of departmental activities and consequently there is a lost opportunity for an integrated and multi disciplinary approach to be taken. The additional complication that now arises, say in a single catchment bisected by a departmental regional boundary, requires that clarification or interpretation of a policy decision, or similar would now have to be determined from separate regional offices of that one agency, further adding to the uncoordinated responses previously noted. The end result is an overly complicated system where confusion of responsibilities results from overlap, duplication and unclear decision making procedures. The lack of a regional scale perspective, together with an absence of integration mechanisms has led to conflict and uncertainty.

The unsatisfactory state of affairs within the Queensland context that existed during the case study review period, (in particular at the time of its genesis), has been criticised by a wide variety of sources. Typical examples include:

1. Brisbane River system: "just who has responsibility for deciding on the future of the Brisbane River. The answer is everyone and therefore no-one the river context is one of unstructured authority. No one agency has responsibility for the river many agencies have overlapping authority there are too many local authorities involved " (Minnery and Bowie, 1990: 371).
2. Brisbane River system: "Contributions to the environmental and social problems now evident in the catchment result from inadequate planning and an absence of coordination between the various government agencies responsible for managing activities in the catchment there are 11 Queensland Government departments and agencies and 17 Local Government Authorities directly involved in the administration of the Brisbane River and its catchment" (QDEH, 1993: 13).
3. Brisbane River system: "there is no apparent overall co-ordination of these responsibilities or laws situations may arise where a single area of responsibility or activity may be regulated by several bodies and under several acts, Regulations and By-laws equally situations may arise where there appears to be no Government body responsible for, and no Act, Regulation or By-law applicable to, a particular area of responsibility or activity" (EDO, 1996: 2/3).

4. SEQ region: "at present, administrative and legislative responsibility for managing the region's coastal and riverine resources are highly fragmented between numerous Commonwealth, State and Local Government agencies" (RPAG, 1993a: ii).

This situation is not isolated to Queensland. It has been noted that "across Australia many agencies have responsibilities related to river management there are many legislative measures at the state level river management is divided amongst authorities, many with varying powers and responsibilities" (Kunert and McGregor, 1996: ix and 12). The AACM review of catchment management planning revealed that "another common institutional difficulty relates to coordinating many different local governments within a catchment or region" (AACM, 1995: 14).

Overseas, the situation has been similar as has been the responses from government. Porter and Salvesen, (1995) note the problem has also been heightened where rapidly developing areas coincided with environmentally sensitive areas, usually in association with water bodies, becoming particularly acute in wetlands, riparian zones, coastal zones and the like. They claimed that the US federal and state regulatory programs have neither adequately protected the ESAs nor provided developers with the necessary guidance of desirable urban growth, nor provided a degree of investment confidence through greater certainly in a rational and consistent manner. They have further noted that environmentalist have long complained that for the ESAs, a case by case permitting processes causes "death by one thousand cuts". Under these approaches, cumulative effects are not taken into account nor is the regional perspective. Developers on the other hand cite a system of interminable delays, inconsistent decisions and different objectives and guidance from one level of government to the next, as well as between the same level, and little coordination between federal, state and local management agencies. In the past, different policies existed at different levels of government, sending different signals to the community and to the development industry. "Little coordination exists amongst federal, state, and local resource agencies, and developers must endure separate, often redundant, and sometimes conflicting review and permitting processes. Federal agencies typically respond only to development proposals currently before them and lack the authority, funding, or will to develop comprehensive policies and standards to reconcile conservation and development objectives. Under such programs, regulators cannot anticipate future conflicts and take steps to avoid them" (Porter and Salvesen, 1995: 2).

The unsatisfactory state of affairs and the imperatives for future management and planning to address the challenges in regard to catchment management is best summed up by Knight and Landres. Whilst they were addressing the issue of ecological stewardship across artificial administrative boundaries, they posed the question, "how did we get to where we are today,

with so many different state, federal, and local agencies and private organisations, each with differing and sometimes conflicting mandates, policies, and regulations, all searching for ways to coexist on a shared landscape?" (Knight and Landres, 1998: 1). The consequences of this ecological unhealthy state of affairs range from uncoordinated management decisions being made in isolation and relevant only to one administrative unit, through to loss of ecological integrity within the whole ecological unit, and thereby reducing the biological and social value of the landscape in question. Knight and Landres (1998: 9) point out that "initially boundaries do little more than delineate responsibilities and ownership. Over time, however, the effects of different land-use practices produce different ecological effects on either side of the line".

4.0 TRADITIONAL COOPERATIVE PLANNING & MANAGEMENT - Challenges & Prospects

The previous chapter has addressed the theoretical aspects and details of responses for two of the study's three research themes, namely:

SCALE: *Addressing environmental issues at the subnational level.*

METHOD: *Appropriateness of traditional planning and management responses.*

This chapter continues the consideration of theoretical aspects and responses for the third principal research theme that involves past cooperative attempts for planning and management. It commences with a theoretical consideration of the nature of cooperation, specifically in terms of defining and distinguishing its various forms and motives and the distinguishing characteristics of the cooperative management process. This is followed by a brief review of how these theoretical considerations were addressed as opportunities for cooperative planning and management efforts at regional scale in Australia prior to the commencement of the case study review period of the early 1990s. In many of these circumstances, practice was ahead of theory and the experience ultimately informed the developing theory.

The previous proposition that emergent environmental challenges can be successfully addressed through the adoption of a proactive form of management, namely a cooperative planning approach at regional level and within the current dimensions of traditional planning still stands. As previously noted, it gave rise to a number of macro issues that established a framework for, and informed the primary research question. In the case of the third research theme, its associated macro issues include:

ORGANISATION: *Achievability of the cooperative planning approach*

Definitional Questions: What are the principles of cooperation? What was the scope and nature of cooperation amongst institutions associated with the functions of planning and environmental management? Were there variations to the cooperative effort established between institutions and community organisations?

Operational Questions: What formal arrangements existed for collective local cooperative arrangements? Was institutional cooperation achievable at the local government level, horizontally between individual local authorities and the community, and vertically between different levels of government? What models were available to achieve the degree of cooperation required? Could a cooperative planning approach provide an alternative to conventional past approaches involving the creation of separate or special purpose bureaucratic

responses (permanent or temporary)? What level of political support is necessary to achieve successful cooperation in policy/plan implementation?

4.1 NATURE OF COOPERATIVE EFFORT

4.1.1 Cooperative approach defined

One of the earliest writers to articulate a link between cooperative activities and our contemporary notions of environmental conservation was Aldo Leopold in his seminal works, titled: *A Sand County Almanac* written in 1949. In his *Land Ethic* essay, he promoted the ideal of a land (ecological) ethic as "a limitation on freedom of action in the struggle for existence" which philosophically can provide "a differentiation of social from anti-social conduct" (Leopold, 1949: 202). He saw the origins of this behaviour evolving from the natural tendency of individuals and groups to evolve "modes of cooperation (*where*) the original free-for-all competition has been replaced, in part, by cooperative mechanisms with an ethical content" (Leopold, 1949: 202). Disappointingly, some 50 years on, Yaffee (1998: 302) reports the generic contemporary situation where "we preach cooperation while we practice competition". In support of this conclusion, Yaffee notes, "the great economic, political, and biological ideas of our times - free market capitalism, pluralism, and evolution - rely on competition as a basic driving force for innovation and change". This view of the dominance of the competitive ethic in our daily lives also underlies Ife's treatise on alternatives to community development (Ife, 1995).

For some time now, policy prescriptions for the management of natural resource, (both state and market operated), have been underpinned by a number of models of environmental consequences of resource use. Ostrom (1990) considers that the three most influential models have been:

1. Hardin's "tragedy of the commons" - the eventual degradation of the environment through open access and unlimited use by individuals of a scarce resource in common;
2. The "prisoner's dilemma game" - a non-cooperative scenario of resource use resulting in the paradox where individual rational strategies lead to collectively irrational outcomes; and
3. Olson's "logic of collective action", (or the 'zero contribution thesis') - the open ended question as to whether the possibility of a benefits for a group is sufficient to generate collective action to achieve that benefit, ie the assertion that rational self-interested individuals will not act to achieve their common or group interests?

The assumption that these models demonstrate that there are forces that mitigate against successful cooperation for mutual benefit and thus lead to the eventual deterioration of the resource, have usually led to the adoption of either of two extreme and opposing positions,

involving external intervention. These solutions range from a centralised state controlled model to the private enterprise free market model. Ostrom cites Ophuls (1973), who argued that "because of the tragedy of the commons, environmental problems cannot be solved through cooperation and the rationale for government with major coercive powers is overwhelming" (Ostrom, 1990: 8). Others on the other hand have argued in similarly strong terms for the exercise of private property rights to prevail whenever resources are owned in common.

Ostrom points out that these early models can represent the more important aspects of different problems that occur in the diverse range of settings throughout the world. However, she is critical of the frequent past use of these models to portray "an image of helpless individuals caught in an inexorable process of destroying their own resources" (Ostrom, 1990: 8). She consequently notes that the principal issues are how to overcome the constraints operating on resource users in these (normal) circumstances and how to enhance their capabilities to do so. Thus the real usefulness of these models and the associated evolving debate is that they can help to explain the nature of cooperation and non-cooperation. As Ostrom (1990: 7) notes, "some of these puzzles are key to understanding how individuals jointly using a common-pool resource might be able to achieve an effective form of governing and managing their own commons". She goes on to identify the missing element as an adequately specified theory of collective action whereby resource use decision-makers can organise themselves voluntarily to retain the residuals of their own efforts. Later work supports this contention that users of common pool resources (CPRs) have for thousands of years, self-organised to devise cooperative long-term sustainable institutions for resource management (Ostrom and Gardner, 1993; Ostrom et al, 1999; Ostrom, 2000).

Defining the nature of cooperation at this juncture, may provide some clues as to why cooperation occurs? Cooperation is one of a number of approaches to achieving integration of resource management, environmental management and planning, a topic which has received much attention in the literature in recent times (Alexander, 1995; Healey, 1997; Knight and Landres, 1998; Hooper et al, 1999; Margerum, 1999a,c,d; Margerum, & Born, 1995 & 2000). Other alternative approaches to integration include coordination and collaboration.

The terms 'coordination', 'collaboration' and 'cooperation' have been used interchangeably in the literature and a degree of confusion exists over their precise meaning and their distinguishing characteristics and differences. Knight and Landes, (1998: 300) sum up the confused and nebulous state of affairs, commenting, "cooperation appears much like the classic statement about pornography: hard to define but easy to recognise". Alexander (1995: 3) supports this view, commenting with respect to coordination that "it is not because there are no definitions there are too many different definitions and too little agreement". Part of the problem lies in

the many different ways in which to view and apply these terms. For example, are the terms an essential element of decisions, relations or actions? Additionally, and depending on the point of view or the situation, they can be a process, a structure, a set of relationships, decision relationships or outcomes.

Definitional differentiation between these three terms is provided in *The Macquarie Dictionary* (1981) which states:

Coordinate: to place or class in the same order, rank, division; to place or arrange in due order or proper relative position; to combine in harmonious relation or action

Collaborate: to work, one with another; cooperate

Cooperate: to work or act together or jointly; unite in producing an effect

Unfortunately, these dictionary definitions are inadequate for the purposes of this study. Further exploration of their precise meaning/s and application follows.

Coordination involves the pursuit of a common goal through a process where people act in concert, voluntarily or involuntarily in response to the directions of a superior (Mutunayagam, 1981; Cigler et al, 1994; Margerum, 1999a; Hall, 1999). Alexander (1995: 6/7) identifies a wide continuum of definitions for interorganisational coordination (IOC) ranging from "an organisation's voluntary strategic adjustment to its environment", through to "recognition of interdependence and ways of coping with it", to the other extreme, where "IOC invokes institutional arrangements, power and control". Alexander (1995) explains these definitional variations by organisational theory, the relationship of which to the various definitions is discussed below. In summary, Alexander, (1995) holds that cooperation and collaboration are subsets of coordination.

Collaboration is defined by Gray (1989: 5) as "a process through which parties who see different aspects of a problem can constructively explore their differences and search for solutions that go beyond their own limited vision of what is possible". She also sees collaborating as "a process in which those parties with a stake in a problem actively seek a mutually determined solution" (Gray, 1989: xviii). This is supported by Selin and Chavez (1995: 190) who extend their definition of collaboration to imply "a joint decision-making approach to problem resolution where power is shared, and stakeholders take collective responsibility for their actions and subsequent outcomes from those actions".

Whilst Gray's definitions acknowledge the two principal interrelated opportunities for collaboration, namely, conflict resolution and the advancement of a shared vision, she notes that not all collaborative efforts are conflict induced. Sometimes it comes about because parties may

have a shared interest in solving a problem that none of them can address alone (Gray, 1989). She argues that by the late 1980's, collaboration rather than competition had become the leading or governing value in interorganisational relations. She saw collaboration as akin to the old town meeting concept – the cornerstone of the democratic process. Town meetings she noted, were based on, and advanced, the principles of local participation and ownership of decisions (Gray, 1989).

Gray (1989: 15) sees collaboration as an emergent process rather than a prescribed state of organisation, describing it as "a temporary and evolving forum for addressing a problem". On the other hand, she believes cooperation and coordination describe static patterns of interorganisational relations, eg coordination refers to the formal institutionalised relationships amongst existing networks of organisations, and, quoting Mulford and Rogers, (1982), cooperation "is characterised by informal trade-offs and by attempts to establish reciprocity in the absence of rules" (cited in Gray, 1989: 15). To Gray, both coordination and cooperation often occurs as part of the process of collaborating.

Cooperation on the other hand, has been defined as a process where all parties come together on a voluntary basis, to orientate their actions towards a common issue or outcome, whilst still free to pursue their own goals and thus retain autonomy (Mutunayagam, 1981; Minnery, 1985; Cigler et al, 1994; Yaffee, 1998; Margerum, 1999a; Hall, 1999; Margerum and Born, 2000). The behavioural traits to cooperation are evident in the definition provided by Alter and Hage (1993: 86) who define it "as the quality of the relationship between human actors in a system consisting of mutual understanding, shared goals and values, and an ability to work together on a common task". Thus cooperation involves a form of voluntary interaction and is found in instances of exchange-based or voluntary-agreement-based relationships, and it may involve personnel interchange. Whilst it involves a relatively small investment on the part of the partners involved, they do have to take each other's actions into account (Hall, 1999). Mutunayagam, (1981) considers that cooperation is less potent than collaboration in that relationships are not necessarily among equals. By comparison, collaboration is seen as a subset of cooperation and is characterised by greater equality and involvement amongst the parties involved, shared and/or interdependent leadership functions, reciprocal relationships, and equal exchange.

Yaffee's definition sees cooperation as a wide range of behaviours, with distinctions according to the forces that promote or hinder cooperative behaviour. In terms of this behavioural approach, Yaffee (1998: 300) has developed the following "rough taxonomy of cooperative behaviours", which maintains collaboration and coordination as subsets of cooperation – refer Table 4.1.

Table 4.1: A 'Rough' Taxonomy of Cooperative Behaviours

Behaviour Type	Definition
Awareness	Being cognisant of others' interests and actions
Communication	Talking about goals and activities
Coordination	Actions of one party are carried out in a manner that supports (or does not conflict with) those of another
Collaboration	Active partnerships with resources being shared or work being done by multiple partners

after Yaffee, 1998: 301

Cigler et al (1994) articulate a continuum of partnerships ranging from loose networks through cooperation to coordination and then collaboration. Thus there exist a number of opposing views ranging from those that see cooperation and collaboration as subsets of coordination (Alexander, 1995), plus those that see cooperation and coordination as subsets of collaboration (Gray, 1989), to the alternative view that collaboration and coordination are subsets of cooperation (Knight and Landres, 1998). Table 4.2 summarises the various characteristics relevant to these terms. It illustrates that whilst there are many overlapping and mostly common characteristics between these terms, a minor number of unique attributes can provide a degree of discrimination between them in order to establish a working definition of cooperation for the purposes of this study.

In terms of providing a basis for a working definition of cooperation, Table 4.2 illustrates that the principal differences between the three terms are:

- Cooperation differs from coordination largely in terms of the voluntary nature of the cooperative effort which does not always apply to coordinating activities;
- Cooperation differs from collaboration in terms of the equal status of the participating members of cooperative ventures (ie a situation where no one partner commands another), which may not always be the case in collaborative (and coordinating) efforts;
- Cooperation is premised on the basis of an absence of conflict; and
- Participants in cooperative ventures tend to exercise more autonomy and independence, and are less dependent on other partners, than in coordinating and collaborative ventures.

Table 4.2: Principal Differentiation between Coordination, Collaboration and Cooperation

Characteristic	Coordination	Collaboration	Cooperation
Voluntary participation or interaction	Could be involuntary	Yes	Yes
Involves two or more stakeholders	Yes	Yes	Yes
Participants are interdependent	Yes - highest degree	Usually	No
Membership	More stable	Very stable	Least stable
Pursuit of a common aim	Yes	Yes	Yes
Organisational Purpose	Specific shared, common goals. Likely impact on structure	Specific, complex, long term	Simple and temporary (low levels of linkages)
Threat to organisational autonomy	Highest	Medium	Least
Power sharing	Yes (but not necessarily equal)	Continuum	Yes (but veto held by participants)
Equal partners - no partner commands another	No - Lead organisation	Shared or independent leadership	Yes
Equality in authority of participants	No (through chain of command)	No	Yes
Retention of autonomy through pursuit of own goals	No	No	Yes
Stakeholders take collective responsibility for their actions	Yes	Yes	Not guaranteed
Mutual adjustment to account for other members	Yes	Yes	Yes
Level of deference for other partners	Lower than collaboration	Highest	Potentially the lowest
Absence of conflict	No	No-used for conflict resolution	Generally
Solves a problem that can't be solved individually	Yes	Yes	Yes
Pooling of resources	Not in all cases	Yes	Yes
Resource commitments	High	High	Lowest
Involves resource exchange	Yes	Yes	Yes
Visibility of efforts	High	Very high	Low

On the basis that cooperative ventures are entered into in order, to advance a shared vision, to achieve a common aim beyond the reach of any individual participant, and, to share resources and achieve economies of scale, the following working definition for cooperation has been established for the purposes of this study:

Cooperation is a demonstration of corporate behaviour that involves a completely voluntary agreement between two or more partners, to work together or to combine their efforts on the basis of equal authority, within a select timeframe, in pursuit of an agreed aim, and usually within a conflict-free cooperative working environment, whilst retaining autonomy and freedom to pursue their own individual goals. This may lead to a specific version of voluntary coordinated or collaborative action consistent with the attributes of cooperation.

This conclusion is supported by a schema of interagency relationships proposed by Mutunayagam, (1981). He derived a typology in which he recognises the control options of coordination and pre-emption as institutionalised, normally in the organisational structures of the various levels of government through authority delegation. By comparison, the partnership options of cooperation and collaboration, tend to be less institutionalised through intergovernmental arrangements, (Mutunayagam, 1981). A modification to Mutunayagam's original typology, to account for more recent applications of various management behavioural options, consistent with the working definition, is illustrated in Figure 4.1. This modified schema recognises a less rigid typology from Mutunayagam's original, and acknowledges that in actual dynamic circumstances, it is possible in a corporate behavioural sense, to evolve between all three interagency relationship options. From a planning and environmental management perspective, this schema offers the most promising way ahead in terms of the focus for this study.

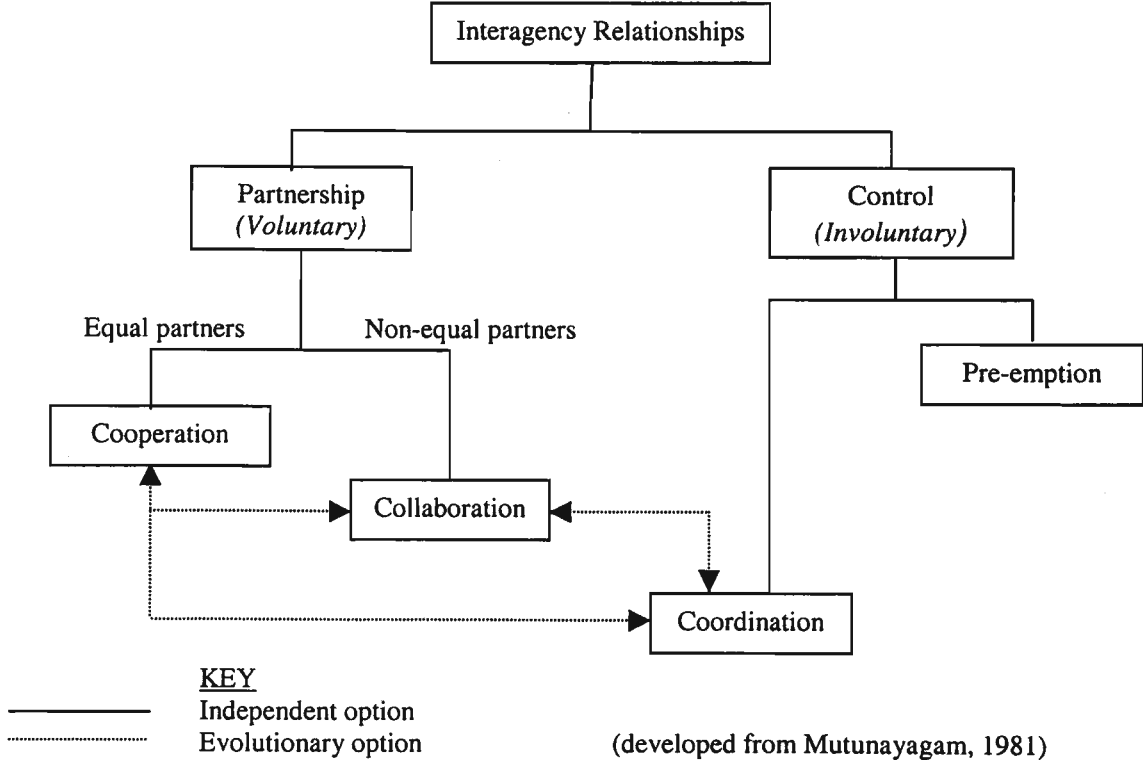


Figure 4.1: Behavioural Classification of Interagency Relationships

Consequently, it is fundamental to this study to uphold the clear distinction identified in the working definition and illustrated in Figure 4.1, between collaboration and cooperation, especially in regard to the distinguishing characteristic of equity between the participating partners. This issue needs to be further explored in term of the opportunities (or otherwise), to forge horizontal as well as vertical partnerships under both circumstances. This would provide the opportunity to further explore the differences between collaborative and cooperative approaches.

4.1.2 Motives for cooperation

In a generic sense, there is agreement as to why cooperation occurs, namely, "to seek to overcome the inherent fragmentation in our society between multiple agencies, levels of government, public and private sectors, diverse interest groups, and different disciplines and value structures" (Yaffee, 1998: 299). However, Yaffee is adamant that altruistic motives are not the reasons for cooperation, a view not entirely shared by Ostrom et al (1999) – see below. Instead he cites strong self-interest motives that can only be achieved through cooperation as the principal reasons. Cooperative behaviour develops and endures over time because of the mutual benefits of establishing and maintaining norms of reciprocity. Brown (1995) strongly supports this view, arguing that it is our voluntary social conventions, and not only market incentives or government coercion, which actually get "strangers to cooperate".

As previously discussed, Alexander (1995) notes that definitions will vary depending on the underlying organisation theory behind the reason for organisational interaction. He identifies three major schools of organisation theory that are relevant, namely:

1. *Exchange Theory*: accepting survival in an environment of limited resources as the basic underlying incentive, resource exchange is premised to be the main factor that explains organisational relationships and behaviour. Resources exchanged could include goods, services, and funds, or it may include votes, information, authority, political support, or power. Three types of resource exchange are recognised, voluntary exchanges, exchanges resulting from power dependencies, and those resulting from legal-political mandates;
2. *Contingency Theory and Organisational Ecology*: the former addresses an organisation's adaptability to its environment, whilst the latter focuses on the fit of the organisation into their "ecological niche". Survival depends on how well this adaptation or fit occurs. The theory can be used to explain the evolved interorganisational cooperative structures as well as internal structural adjustments made by the participating organisations. Motivation for organisational behaviour may change from initial resource exchange during the formative stages to the need to adapt to changing environments in subsequent stages of the organisation's life cycle. On the other hand, organisational ecology focuses on the "population" and embraces the ecological concepts of symbiosis, (interaction for mutual benefit), and commensality, (cooperation in sharing and rationing a common resource base), to explain organisational relationships; and
3. *Transaction Cost Theory*: results from a desire to account for the cost of redeploying conventional assets of capital, plant, labour etc. Hierarchical coordination structures are developed in order to minimise the transaction cost of unconcerted actions.

This then raises the question as to whether cases of collective action can be explained in terms of rational voluntary choice by the participants, or, does it depend on either compulsion or

inducement that they cannot resist? Secondly, how strong does this threat of survival need to be in order to promote cooperation? Selman (2000: 5) notes that because many environmental problems are transboundary and thus require concerted action, "most countries require a degree of external pressure placed upon them before they will agree to behave in accordance with international best practice", and equally "most individuals need to be persuaded, and even compelled, to behave in accordance with the principles of sustainability". Similar conclusions have been drawn at the micro level by Singh, Ballabh and Palakudiyil who, quoting Olson state, "unless there is coercion or some other special device to make individuals act in their common interest, rational, self-interested individuals will not act to achieve their common or group interests (in Singh and Ballabh, 1996: 15).

Ostrom (1990: 211) provides further support for this view when she concluded that CPR appropriators will adopt a series of incremental changes in operational rules to improve joint welfare (cooperation) when they:

- share a common judgement that they will be harmed if they do not adopt an alternative rule;
- are affected in similar ways by the proposed rule changes;
- value highly the continuation activities from this CPR, ie they have low discount rates;
- face relatively low information, transformation, and enforcement costs;
- share generalised norms of reciprocity and trust that can be used as initial social capital; and
- belong to a relatively small and stable group appropriating from the CPR.

In later work, Ostrom et al (1999) have noted that users of a CPR are of four basic types, namely:

1. those who always behave in narrow, self-interested and uncooperative ways (the free-rider);
2. those unwilling to cooperate unless assured they will not be exploited by free-riders;
3. those willing to initiate reciprocal cooperation in the hope that others will return their trust; and
4. a few genuine altruists who always try to achieve higher returns for a group.

Under this model, the successful establishment and sustainment of reciprocal cooperation will depend on a relatively low proportion of free-riders. Ostrom (1990: 6) had pointed out that the "free-rider" problem stands at the heart of the three previously described models of "tragedy of the commons", "the prisoner's dilemma", and "the logic of collective action".

It should also follow that others will be inclined to cooperate as the reputation for trustworthiness of participating users increases. The establishment of norms for management (including deliberate devices for monitoring and enforcement) will be largely dependent on resource users identifying one another on the basis of trust, reciprocity and reputation. Ostrom

et al (1999: 279) note that "whether the users themselves are able to overcome the higher level dilemmas they face in bearing the cost of designing, testing, and modifying governance systems depends on the benefits they perceive to result from the change as well as the expected costs of negotiating, monitoring, and enforcing these rules". Perceived benefits will be greatest when the resource reliably generates valuable products for the users. On the other hand, perceived costs are highest when the resource is large and complex, users lack a common understanding of the resource dynamics, and users have substantially diverse interests.

A different perspective on further motives for cooperation comes from Minnery (1985) who identifies cooperation as a potential outcome from conflict management in urban planning. Whilst Minnery's study was focused on the management and resolution of conflict, particularly resulting from the decision taking and implementation stages in urban planning, his concluding discussion regarding cooperative processes has utility in this study. One of his main conclusions that is consistent with those of other conflict analysts, supports the proposition that cooperative processes of conflict management should be used in preference to competitive processes. Consequently, it does raise the question as to whether an established cooperative planning initiative can (and should) perform as a conflict management process in its own right, or indeed, does it have a role as a conflict avoidance or conflict prevention mechanism.

To Minnery, the cooperative option has the potential to limit (rather than extend) the scope of conflicting interests; to enable the participants to approach the mutually acknowledged problem in a way which utilises their special talents and enables them to substitute for one another in their joint work so that duplication of effort is reduced; to ensure that influence attempts tend to be limited to processes of persuasion; and to project the enhancement of mutual power as an objective (Minnery, 1985: 201).

Other potential benefits that are claimed to accrue from a cooperative approach, (particularly those associated with focused, special-area conservation planning), acknowledge that it:

- reduces the fragmentation of spatial and temporal decisions typically resulting from the traditional planning process;
- promotes cooperation not conflict through the provision of a forum for interested parties to evaluate and resolve potential conflicts;
- achieves a more equitable and adequate allocation of costs of development impacts on environmental quality through the ability to recognise other indirect and external costs elements;
- provides improved predictability and assurances, usually in the form of agreements and conveyances;
- avoids land use conflicts; and

- minimises time for development permit processing.
(Marsh and Lallas, 1995 and Porter and Salvesen, 1995).

4.1.3 Forms of cooperation

Alter and Hage (1993) have developed a typology that recognises several dimensions of interorganisational networks, (ie non-hierarchical institutional arrangements or clusters of organisations). It comprises essentially three dimensions that address the type of cooperative effort that links the network, the types of network, and the medium and the objective of the cooperative effort. These dimensions and their alternate attributes are detailed in Table 4.3.

Table 4.3: Dimensions & their Alternate Attributes of Interorganisational Networks

Dimensions	Alternate Attributes
1. Type of cooperation linking the network	i. Competitive (linking similar organisations in same sector)
	ii. symbiotic (linking complementary organisations)
2. Networks type	i. obligational networks (linked by agreement or contract)
	ii. promotional networks (linked to promote a shared interest)
3. Medium and the objective of the cooperative effort	i. friendship and support for solidarity
	ii. scientific or technical information to pursue knowledge
	iii. goods, services or people for processing or production objectives
	iv. money for economic objectives
	v. power for political objectives

after Alter and Hage (1993)

Using this typology, Alter and Hage recognise a significant diverse range of twenty-five different clusters of interorganisational networks. However, in term of the nature of this inquiry into cooperative regional planning involving a coalition of local authorities, only two are applicable, namely:

1. Competitive-promotional networks for the purposes of pursuing knowledge through scientific or technical information, ie Research Networks; and
2. Competitive-promotional networks for the purposes of pursuing political objectives, ie Policy Networks.

A second schema for comparing interorganisational networks relies on distinguishing their structural characteristics, (eg size, degree of centralisation, complexity, difference between members, linkages, and degree of connectivity), their reliance on external resources, and the scope and volume of their task (Alter and Hage, 1993). These characteristics have given rise to

the following schema that recognises four basic categories reflecting four possible combinations of resource dependency and task scope – refer Table 4.4.

Table 4.4: Schema for Interorganisational Networks

		Scope and Volume of Tasks	
		Narrow	Broad
Vertical Resource Dependency	Low	<i>Category 1</i>	<i>Category 3</i>
	High	<i>Category 2</i>	<i>Category 4</i>

Based on Alter and Hage, 1993

These categories can be describe thus:

Category 1: small simple network with low centralisation and narrow task scope;

Category 2: higher vertical dependency but quite low complexity and differentiation;

Category 3: small with low resource dependency, but network has broad task scope, is highly centralised and has high complexity and differentiation; and

Category 4: moderately sized, complex and highly differentiated network with broad task scope and high external resource dependency.

Whilst not an appropriate typology for the purpose of this study, particularly in regard to the subsequent discussion on cooperative responses (Section 4.2), it does provide some guidance for the development of a separate typology unique to the research themes and foci of this study.

There is a limited range of specific research and consequently literature on the topic of cooperative planning within the field of spatial planning. Consequently, reliance has largely been made on relevant literature from allied and associated fields. This has included Hall, (1999) who approaches the topic from a managerial and organisational point-of-view. Gray (1998) is an earlier but useful examination of the collaborative process from a common ground perspective to conflict management. Muir and Rance, (1995) provide some useful insight into the topic from a built environment (ie development and construction) perspective. On the other hand, Minnery, (1985) and Mutunayagam, (1981) have examined the subject from a conflict management point of view with the latter providing the most comprehensive coverage of the topic in terms on its relevance to environmental management. Collaborative planning has received much attention in the USA where it has been applied to conservation planning, as well as local economic revitalisation planning in forest-dependent settings, (see Porter and Salvesen, 1995; and McAllister and Zimet, 1994 respectively). In most instances however, these forms of collaborative planning are focused on specific issues or areas and occur within the existing comprehensive planning framework. Of direct relevance to the spatial planning field, are the works of Healey (1997) on the topic of collaborative planning, Alexander's (1995) detailed

treatment of the theory and processes of interorganisational coordination, and Margerum (1997, 1999a,b,c,d) and Margerum and Born (1995 and 2000) in the area of integrated environmental management. Some specific references on collaborative planning with respect to cross-border ecosystems management are also emerging, (see Knight and Landres, 1998), and for the collaborative planning and management of protected areas see Stolton and Dudley (1999).

4.1.4 The cooperative management process

The cooperation process involves a relatively small investment on the part of the organisations involved, however it does mean that they have to take each other's action into account (Hall, 1999). To Muir, collaboration requires the adoption of changes in attitudes as well as the introduction of new working methods that incorporate new concepts of team working. He describes a collaborative process that includes:

- a clear management framework which recognises the essential needs of effective interprofessional collaboration;
- an open minded approach to both problem identification and problem solving;
- a degree of 'lateral thinking' so that the advantages of having a multiprofessional team can be exploited by approaching problems from unexpected directions;
- recognition that the project holds primacy over other goals or objectives and the success in the project is the goal for all professional contributors;
- acknowledgment that the management goal for interprofessional collaboration is to ensure that each participant pushes the others in a collaborative striving for a common achievement, namely the project;
- not allowing professional restrictive practices to inhibit the true spirit of collaboration within the project, (Muir, 1995: 20).

Muir describes a partnership arrangement as one where two or more parties come together on a cooperative basis. They provide inputs of assets, resources, skill, time etc on the understanding that they will share the outputs (Muir, 1995). Partnerships are not necessarily seen as formal organisational agreements. Muir and Rance (1995) conceptualise the current evolving collaboration trends within the development and construction industries amongst traditional professional disciplines thus:

PHASE 1: *Problem Setting*: defining the problem, identifying and gaining a commitment from the stakeholders, and identifying the resources to facilitate collaboration;

PHASE 2: *Direction Setting*: establishing the rules and the agenda for collaboration, gathering and exchanging information, exploring options and reaching agreement; and

PHASE 3: *Implementation*: dealing with constituencies, building external support, monitoring the agreement and ensuring compliance.

This collaborative process is explored in detail in Section 5.3.5b and Table 5.4.

Why has there not been a greater uptake of the collaborative/cooperative approach? Porter and Salvesen (1995) believe that it is because planning consumes large amounts of time and talent, and that no institutional mechanism exist to fund the necessary studies, countless meetings, and negotiations, or to develop and implement the plan - the process relies entirely on voluntary contributions of time and money. Also there are no guarantees that the process will result in long-term benefits or in a definite regulatory product. Collaborative planning may end in a stalemate or unacceptable compromises. They note that collaborative planning is a time consuming, resource intensive uncertain process.

Alexander (1993) provides further understanding of these complexities. He considers planning to be an exercise in interorganisational coordination, especially in light of the universal acceptance that planning is inextricably linked to implementation as a continuous process transforming ideas into reality. Earlier, in a discussion on implementation, Alexander (1992: 86) had noted that "simple projects that can be executed within a framework of relative organisational autonomy are more likely to succeed than complex plans that require the cooperation of numerous independent units (*concluding that*) implementation can be facilitated by careful attention in the planning stage to the problems of coordination between the organisations involved in the process: thus, parts of planning becomes organisational design". In later writings, Alexander concluded with reference to the 'Pressman-Wildavsky Paradox', which expressed the "sense that successful coordination is exceptional, and that the failure of complex undertakings is to be expected" (Alexander, 1995: xiii). He noted that the 'Pressman-Wildavsky Paradox' is based on an implementation model where policies are carried out as a linear process - a sequential chain linking a set of independent actors. He argued that even if there was a high probability of agreement and concert amongst the participating organisations, by simple multiplication, the chances of the policy's final implementation is low. In response, it was noted that a number of measures were possible to improve the chances of success, namely, simplifying programs, reducing the length of the 'chain' of independent action, and packaging the otherwise loose approvals (Bowen quoted in Alexander, 1995: xiv). Alternative

explanations (and cautions) include the possibility that the participant actors may exhibit special cases of independence, or that implementation may occur in a conflict or turbulence ridden environment. Alexander points to a further view that acknowledges that the high degree of complexity and scope requires the interaction of many agencies and organisations, and that this does not happen by chance, but is in fact the result of interorganisational coordination (IOC).

4.2 RESPONSES TO COOPERATIVE PLANNING & MANAGEMENT THEORY IN PRACTICE

4.2.1 Achieving the cooperative approach

The approach of challenging the previously mentioned competitive ethic by developing social and economic structures based on principles of cooperation is not a new one, certainly not to the field of town planning. Ife (1995) reminds us that the earliest connection between the concepts of cooperation and planning can be traced back to the early nineteenth century town planning initiatives of Robert Owens, namely the establishment of the Rochdale Society of Equitable Pioneers in 1844 in the United Kingdom. Ife notes that the specific principles of Rochdale have become the basis of the cooperative movement, namely, "voluntary and open membership, democratic control, limited return on capital, surplus earnings to be returned to the members, education for the members, and cooperation between the cooperatives" (Ife, 1995: 116). These cooperatives became the foundations for the UK Utopian movement and the forerunners to the Howard's Garden City and eventually, the New Town concept.

In terms of environmental management, the review in the first chapter raises the question of what has happened to the early calls for a spirit of cooperation by Howson (1972); Costin and Frith (1971); plus Senate Select Committee on Water Pollution (1970); and also Hawke (1989)? What are the essential elements of cooperation and what forces operate against the spirit of cooperation in the planning process, particularly at regional levels of planning and management? Did the Brundtland Commission propose any new forms of cooperation as it was tasked? Whilst cooperative effort has been readily achieved in the plan making phase of the planning process, it has not been readily accepted as an option in the plan implementation phase, especially where the issue of sovereign rights is paramount. This may in fact account for the lacklustre success of past cooperative initiatives at the international and national levels.

In his review of the last one hundred years of planning, Lindblom (1999: 57), concluded that one integrating theme with vast implications stood out as "critical, fundamental, pivotal to planning of all kinds and everywhere (*with resulting consequences that*) in the social sciences there is no greater theme". He was referring to a theme previously discussed (see Section 3.3.3), namely: between what he calls 'unilateral planning', (involving one powerful

centrally coordinated social organisation), and 'mutually adjustive planning', (involving voluntary, mutually adjusted social organisations). He notes that whilst our conventional political and planning frameworks are heavily biased "in favour of the authoritative mind (*it is*) high time to expose and get rid of this bias". Whilst Lindblom makes no specific reference to the cooperative approach he clearly has such an arrangement in mind when he comments, "what I mean by non-central or unilateral is organisation or coordination achieved without a supervising or overarching power, because persons to be coordinated take account of, adjust to, and influence each other". To Lindblom, the major differences, (and conversely advantages for a cooperation approach), between unilateral and mutually adjusted policy-making, planning and coordination, is that the former does not think or analyse its way to a universally accepted reasoned solution. It does not represent a wide view and it achieves a solution by politically imposing its position on others. He concludes, "environmental problems are an example of the need for mutually adjustment. In coping with environmental problems, global interdependence now calls for regional or global coordination" (Lindblom, 1999: 62).

In terms then of the applicability and achievability of cooperative initiatives at the regional level by local government coalitions, Bowman and Hampton, (1983: 5) believe that "the more freedom to experiment a local authority has the greater the opportunity for a general improvement in services". They argue that a national/state agency would hesitate to risk innovation if it would apply nation or state wide, whereas a council may be more willing to take the risk as the scale is smaller and the conditions in a single area may be favourable. They also believe that if the experiment succeeded, it may then be extended to other areas.

4.2.2 Cooperative responses by Commonwealth and State Governments

Kenny and Meadowcroft, (1999) have cautioned against drawing too much from past fundamental changes to state institutions and capacities that resulted from responses to welfare challenges that were perceived at that time to be just as apparently insoluble as present-day ecological threats. Whilst noting the significant challenges that environmental problems pose for contemporary public authorities, they question the appropriateness of current bodies and organisations which were designed to respond to very different issues, for achieving environmental sustainability goals.

There has been a long history and association with the cooperative approach to management in this country, stemming from the nature of the federal system of governance and the Australian Constitution. Previous sections have discussed the implications of the three tiered system of government and the division of planning and management responsibility between them as a consequence of the constitution. Painter, (1998) argues that the cooperative response by state and local governments must be seen against the background of 'Collaborative Federalism'

which has historically dominated the Australian political scene since federation. He points out that there has been a recent and fundamental reshaping of the Australian federal system, which has propelled the state and federal government into more and closer cooperative arrangements than hitherto. This has been particularly noticeable in the Council of Australian Governments (COAG) forum, whose charter clearly sets out an aim of cooperation, stating:

- increasing cooperation among governments in the national interest;
- cooperation among governments on reforms to achieve an integrated, efficient national economy and single national market;
- continuing structural reform of government and review of the relationship among governments consistent with the national interest;
- consultation on other major issues by agreement , (Painter, 1998: 61)

Gleeson and Low (2000: 213) advanced a case for multi-tiered planning premised on the principle of subsidiarity which "demands that a higher level of government should not undertake what a lower level of government can do for itself". This leads to an interesting conundrum, namely: in view of the constitutional arrangements for government and the three level federal hierarchical system of governance, who then should take the lead in regional planning, management and coordination, the state government or the local authorities? The former would require the establishment of central government agencies to oversee and coordinate the lower order agencies (including local government), whilst the latter approach would see cooperative ventures by the lower order agencies, especially the local authorities themselves, and with possibly the introduction of a 'lead agency' concept. In contrast to the growth in size and functions that has characterised the Australian public sector for most of the previous century, the recent decade has witnessed a move to decentralise and delegate responsibilities and to consolidate these gains in public sector management (Harman, 1993). This has resulted in a greater emphasis on policy coordination and in cooperative approaches to governance both horizontally and vertically. This has been particularly the case where there existed a hierarchical structure of governments and supporting bureaucratic agencies as exemplified by the Australian situation.

In the Australian context, all three levels of government have acknowledged this, especially during the first half of the past decade (ie the case study review period). The Commonwealth Government's *Working Nation* Policy Document (Keating, 1994: 159-175) proposed a "Regional Development Strategy" based on a cooperative approach with other levels of government and with the focus on the local community. At the State level, the Queensland Government's stated strategy has been "to improve cooperation and coordination with local government, and between State Government departments in terms of improving regional planning" (Goss, 1992: 71). Under the heading of "*Collective and Regional Responsibilities*",

the Australian Local Government Association in their Policy Document acknowledged "the value of working collectively and cooperatively on a regional level, based on communities of interests, to realise the full potential and effectiveness of local decision making as a part of the wider process of governance of the nation" (ALGA, 1994: 25).

Thus the institutional, administrative and bureaucratic setting for cooperative planning activity at the regional scale needs to be very much dominated by issues related to considerations of 'vertical' as well as 'horizontal' coordination.

4.2.3 Cooperative approaches at the regional level

Alexander (1995) suggests that the increased dependence on interorganisational coordination (IOC) has resulted from increasing complexity in the plan/policy implementation environment, increased interconnectedness of agencies thus reducing their interdependence and the growth of "third party government". The latter resulting from the delegation by a government agency to a network of other agencies that may include lower levels of government and private organisations. This has led to increasing demands for multilateral cooperation in implementation circumstances characterised by blurred or eliminated traditional boundaries and jurisdictions, and involving many actors. This has been particularly the case in the local government arena in Australia. Local government's willingness to seek these new working and decision-making partnerships can be gauged from the policy statements of their umbrella peak body, the ALGA, previously discussed in Section 3.1.5c and Appendix 3.1.

At the regional catchment level, Hegerl et al (1990: 427) conclude that, "the pre-eminent issue that emerges in reviewing the management options for the Brisbane River is the need for integrated management of the total catchment. To attain this goal we need to achieve far better cooperation among all levels of government. This will require new initiatives in interdepartmental and inter-governmental dealings, and in the way that governments in Australia relates to the concerns of the community". At the time of this statement which coincides with the genesis of the case study initiative, the requirement to plan and manage across traditional boundaries by cooperative means posed additional challenges for local government, but such initiatives were not new, nor were they not foreseen by earlier state administrators. The subsequent progress in these areas is discussed in detail in Chapter 5.

Harris (1989: 107), categorises six options for local government involvement in structures or arrangements for the purposes of regional planning. The first five options include direct participation by local authorities whilst the sixth option only involves indirect participation. These six categories include:

Type 1 -two or more local authorities forming a combined authority to provide

a joint service to all of the areas concerned;

Type 2 -two or more local authorities in conjunction with a semi-government authority (State statutory authority) to undertake either project or program planning;

Type 3 -two or more local authorities in conjunction with a semi-government authority which is a combined Commonwealth and State statutory authority to undertake either project or program planning;

Type 4 -local authority participation in the administration or management of a State statutory authority, where the public services involved encompass a wider area than one local authority area;

Type 5 -local authority membership of and participation in a State statutory body which acts as an advisory body to a specific State Government department for some particular function (project planning) or related group of functions (program planning);

Type 6 -local authority deals directly with regional planning authority or coordinates its own programs with those of the regional planning authority, but the local authority does not directly participate in, and is not a member of, the regional planning authority.

Harris identifies Types 1, 4, 5 and 6 as the most important for the purposes of contemporary regional planning activities. He concludes that the future involvement of local government in regional planning will "in the main consist of their membership of State appointed regional planning authorities, and in their need to react to, and plan their own policies within, the decisions and programs of these State-oriented regional planning authorities" (Harris, 1989: 121).

Jones (1993) provides a useful schema of regional cooperative management and administration. He identifies the following opportunities for management and cooperation at the regional level, some involving local government:

1. *Inter-authority contracting*: involves local authority specialisation and contracting of these specialised services between regional groups of local authorities, (as opposed to private sector contracting) - not relevant to the specifics of the research agenda and not considered further.
2. *Regional Councils*: fourth tier of governance - previously discussed in Sections 3.1.1 and 3.1.2.
3. *Regional Commissions*: a form of statutory authority normally with responsibilities for regional development - refer Section 3.2.1.

4. *County Councils*: normal a single purpose organisation with spatial responsibilities overlying local government areas - not relevant to the specifics of the research agenda and not considered further.
5. *Task Forces for border management*: limited tenure special arrangement usually for dispute resolution between adjoining local authorities - previously discussed in Section 3.2.1 but not relevant to the specifics of the research agenda and not considered further.
6. *Special districts*: a joint arrangement initiative between local councils commonly used to address the problem of service provision across local government boundaries - discussed in detail in this Section.
7. *Regional Organisations of Councils (ROCs)*: voluntary grouping of local authorities formed for a variety of purposes - discussed in detail in this Section.

a. Joint local government arrangements

It is at this level where local examples can be found of practice ahead of theory, at least in concept. The lessons from this experience can confirm and inform the developing theory of cooperative planning and management.

Opportunities for cooperative effort through joint arrangements between local authorities have been possible at the local level in Queensland since 1864. Previous *Local Government Acts* permitted three initiatives for joint arrangements between local authorities. In this regard, Jones (1993: 259) considered that "the Queensland legislation is quite sophisticated compared to elsewhere in the world". Under the original legislation, the three options for joint arrangements included:

- Joint Boards
- Joint Action by Agreement
- Local Authority Joint Committee

1. Joint Local Authority Boards (formerly Joint Local Authorities): Section 20 of the previous *Local Government Act 1936* as amended, provided for the establishment of Joint Local Authority Boards. These could be established between any two or more neighbouring local authorities for the purposes of performing any existing local government function. Once formed however, these Joint Boards took over completely that function from the individual local authorities. The Joint Board was a body corporate that was governed by a board comprised of members from the constituent local authorities. The functional areas for which Joint Boards have been formed were largely of a single purpose nature and included: water supply; regional library services; aerodromes; ferries; sale yards; showgrounds; and children's hostels.

2. Joint Action by Agreement: There are many examples of joint action (cooperation) by agreement between local authorities who have chosen this less formal approach in order to achieve economies of scale in functions and administration. This was permitted under s. 32 (1) of the *previous Local Government Act 1936* as amended. Typical functions which could involve joint action include: road and bridge construction (particularly on a common boundary); water supply; drainage; pollution control; garbage collection and disposal; staff sharing; tourist promotion; land use planning; and catchment management.
3. Local Authority Joint Committee: A third option was provided under s. 15(2) of the *previous Local Government Act 1936* as amended. This provision allows two or more local authorities to appoint a committee comprising members of the respected local authorities to advise on matters of common interest.

The 1990 Electoral and Administrative Review Commission (EARC) concluded that the full potential for joint arrangements by local authorities has never been realised in Queensland (EARC, 1990). Joint Boards have mainly been used for single purpose and some limited multipurpose functions. In most circumstances, these joint arrangements are considered as alternatives to boundary changes or local authority amalgamation. EARC also noted a number of advantages for these forms of joint arrangements. They acknowledged that this was particularly the case for Joint Boards, namely: there was no upper limit to the number of constituent local authorities; there was no upper limit to the number of functions that it could perform; it could be established for any period of time to address short and long term issues; it represents a bottom-up approach to problems that transcend boundaries; it is funded and controlled by the member local authorities; it has executive rather than merely advisory powers; its functions, area or constitution can be amended by the Governor-in-Council at any time; and it can avoid unnecessary duplication of local authority resources (EARC, 1990).

It was further noted that these potential arrangements for joint operations between local authorities could in fact provide opportunities to establish regional bodies for such purposes as regional planning. However, until the introduction of the *Integrated Planning Act 1997*, local government did not have any responsibilities nor authority for planning matters outside of individual council areas. The subsequent legislative initiatives in the *Integrated Planning Act 1997* did in fact partly address a regional planning opportunity. Part 5 of that Act made provision for the establishment of Regional Planning Advisory Committees (RPACs) which may include representation from local government. Prior to this, some eight RPACs had been established throughout the state, but surprisingly, they largely originated from the VROC model (described below), as opposed to joint arrangements under the *Local Government Act*.

Further reasons for this lack of commitment to joint arrangements by past local government may lie in EARC's observation that "where there are differences between local and regional perspectives, Joint Board members could face difficulties in determining their allegiances" (EARC, 1990: 72). Other disadvantages noted, included: local authorities may not wish to surrender autonomy; lack of accountability to constituent Local Authorities and the local community; potential for empire building and administrative cost escalation; and a perceived lack of flexibility in the structural arrangements of Joint Boards which could account for the popularity of the other joint arrangements, (EARC, 1990).

More recent legislative changes under the *Local Government Act 1993* as amended, now make provision for cooperative action under two categories, specifically:

1. Joint Local Governments, s. 39, (previously Joint Local Authority Boards); and
2. Joint action by Local Government, s. 55, (previously Joint Action by Agreement and Local Authority Joint Committee).

In the main, these changes are minor and the previously noted comments remain valid. There remains reluctance on the part of local government to utilise the formal 'Joint Local Government' option for cooperative effort as demonstrated by an examination of current initiatives. For example, during the 1990s (the review period for this study) a number of these joint organisations existed. However, with the exception of two, all had single purpose functions and are constituted by only two member authorities. Many are concerned with the sharing of rural related facilities between a town or city local authority with its surrounding rural authority. The exceptions were the Nogoa River Flood Plain Board, comprising Broadsound, Emerald and Peak Downs Shire Councils, which has the role of managing the Nogoa River flood plain, and the North Queensland Afforestation Program Joint Board (NQAPJB). The characteristics of officially recognised Joint Local Governments during the mid 1990s are set out in the following table.

Table 4.5: Queensland Joint Local Governments (mid 1990s)

Type	Constituent members	Number	Type
Water Supply Board	2	2	
Aerodrome Board	2	3	a
Library Board	2	1	a
Saleyards Board	2	3	a
Show Grounds and Saleyards Board	2	1	a
Community Cultural Centre Board	2	1	a
Sports Complex Joint Board	2	1	a
Marine Facilities Joint Board	2	1	
Flood Plain Board	3	1	

Source: *Local Government (Areas) Regulations 1995* as amended

Explanation: Type 'a' = Town or City Council in association with surrounding rural local authority.

b. Voluntary Regional Organisation of Councils (VROCs or ROCs)

Although this form of local government cooperative arrangement has been around for some eighty years in Australia, the most notable recent precedent was the regionalisation of public administration initiatives undertaken as part of the Whitlam 'new federalism' agenda during the early 1970's. Standing between the existing state and local levels of government, regionalisation was partly to bypass perceived incompetent or uncooperative levels of government, partly as a technical promotion of efficiency, and partly as an experiment in responsive government incorporating regional involvement and participation. The result was the regional grouping of local authorities to form Regional Organisations of Councils (ROCs) which had the task of pursuing cooperative planning and serving as a conduit for Commonwealth funding (Parkin, 1982). Many of these ROCs survived through the 1970s, 80s and 90s to the present. For example, Low Choy and Minnery (1994: 202) have reported that "when the (Regional Coordination) Councils were abolished across the state in the mid 1970s the grouping in the Moreton Region, recognising the advantages of a supra-local forum, continued informally under their own initiative. This forum has evolved as the contemporary South East Queensland Regional Organisation of Councils (SEQROC)".

Present day ROCs still comprise voluntary groupings of local authorities and generally operate along the lines of standing committees that draw their membership from the elected members and senior officers of the constituent councils. They also provide representation for external initiatives and organisations. Howe (1995: 182) believes that "the broadening of local government responsibilities and coordination activities have been important factors in influencing organisational change at the local level, the most significant being (inwards) re-organisation within local government structures and (outwards) the increasing cooperative relationships between councils, especially the formation of Regional Organisations of Councils". Jones (1993) describes the typical ROC as comprising a secretariat (funded by member councils, and a number of standing committees for such aspects as town planning, community services, technical engineering etc.

A number of reviews of VROC experience have been completed. These reviews highlight some advantages for local government from participation in a VROC approach to include:

- unlike the state government organised cooperative arrangement or statutory authority, VROCs are free to decide themselves their principal functions, form and structure (Steering Committee on Voluntary Regional Co-operation, 1990);
- flexibility in groupings according to purpose can account for changing circumstances over time (Victorian Office of Local Government, 1991);

- they can address issues such as housing, employment, social development, environmental problems which cannot be handled successfully at the local level (Victorian Office of Local Government, 1991);
- they can consider the broader (policy) issues as they are one step removed from the day-to-day issues that individual councils normally contend with (Victorian Office of Local Government, 1991);
- through the development of regional policies and strategies they can contribute and respond to national and state agendas, frameworks and priorities (Steering Committee on Voluntary Regional Co-operation, 1990);
- without the concern for traditional local level responsibilities, they can experiment, develop projects and implement trial programs that they would otherwise not contemplate (Victorian Office of Local Government, 1991);
- they can maximise the use of their resources across a wide range of functions through the ability to share (Steering Committee on Voluntary Regional Co-operation, 1990);
- collectively they have a stronger voice (political clout) when dealing with other levels of government (Marshall, in Dollery and Marshall, 1997); and
- collectively they gain considerable lobbying functions, particularly in areas that they are not normally responsible for, eg employment and education (Howe in Troy, 1995).

The initial focus for the revitalised ROCs of the early 1990s was research and lobbying. However, this has now turned towards undertaking more direct initiatives especially with community groups. Direct joint action by ROCs have included, land use planning, infrastructure planning, business promotion, employment and training programs, grant administration, and the development of regional environmental plans, (Victorian Office of Local Government, 1991). The Steering Committee on Voluntary Regional Co-operation (1990: 2) was at pains to point out that VROCs are "not a substitute sphere of government, but a forum for cooperation and interaction between local government and interest groups from the wider community a strategic response to efficiency and effectiveness demands in undertaking government responsibilities and in marshalling community resources". They identified the following areas for potential regional cooperation: planning, community service provision, transport, economic development, environmental concerns, along with the ability to share resources to achieve economies of scale.

In terms of a philosophy for VROC modus operandi, the Steering Committee on Voluntary Regional Co-operation (1990: 3) was quite specific when it stated "voluntary regional co-operation between Local Government is unique in that it is based on the premise that extensive community consultation is ultimately the most effective method of developing strategies to meet local and regional needs".

Jones (1993: 261) has identified the following criteria as essential for the success of a ROC:

- the recognition of a natural community of interest by the members;
- an absence of amalgamation or significant boundary dispute issues;
- the existence of an atmosphere of equality amongst members (particularly relevant in bargaining processes);
- reliance on consensus amongst members, (they have no identifiable conflict resolution mechanisms);
- primary purpose is as a lobbying organisation to state and federal governments, (no attempt at resolving serious problems within or between councils);
- issues seen primarily as technical; and
- work on specific problems undertaken by subcommittees of officers from across member councils.

By 1995 some fifty ROCs had been established nation-wide, embracing approximately 45% of all local authorities and 74% of the population (Marshall, 1997). This success led to the then federal Labour government broadening its policy on regional development through the adoption of similar organisations, called Regional Development Organisations (RDOs), under their Regional Development Strategy announced in their 1994 policy statement, *Working Nation* (Keating, 1994). These RDOs had a clear economic development focus, based on a "bottom-up" approach with membership drawn from key sectors in the region of interest. Consequently the RDOs differed from ROCs in their economic focus and absence of exclusive council representation. In some instances, some RDOs grew out of existing ROCs. Marshall believes that it is important in terms of intergovernmental relations that "regional development occurs in terms of existing institutions within the local government system" (Marshall, 1997: 13). Marshall however cautions that if RDOs have to develop cross-sectoral linkages to succeed, then this has the potential to: create tensions between horizontal and vertical lines of interaction; contribute to further fragmentation and to a less effective local government sector; and add to the complexity of relations with State and Commonwealth relations.

5.0 FRONTIERS OF CHANGE - Future Planning Horizons

This chapter considers some overarching issues related to the nature and direction of future planning and what may constitute the basis for evolved (or perhaps new) planning paradigms responsive to future environmental management challenges. It acknowledges the previously noted observations of future environments in which planning might occur (see especially Section 1.4).

Within the context of potential challenges arising from future landscape changes, this chapter assembles the foundations and criteria for the subsequent evaluation of the case study (see Chapters 8 and 9). It draws together and interprets the recent experience and thinking from the literature about the three themes of the research question. Specifically, it addresses the evolving nature of planning theory, and that of relevant fields allied to traditional planning. This chapter identifies from the contemporary literature the status of current research and the principles and criteria with which to analyse the case study in terms of the principal research themes of planning, regionalism and cooperative management.

5.1 CULTIVATING A RESPONSIVE PLANNING CULTURE

In setting the scene for the consideration of relevant contemporary planning paradigms, this section provides a basis to explore possible elements of what may constitute the foundations for future planning cultures. This approach is not without its challenges for as Friedmann (1998: 247) has observed, "it is never going to be easy to do theory inside a profession that prides itself on being grounded in practice". Friedmann provides support to this approach when he advanced six principal reasons for seriously considering planning theory. Four are pertinent to this exercise, namely: planning is in constant need of rethinking; theory helps to improve practice; planning does not exist in an intellectual vacuum; and planning as practice needs to continuously reinvent itself.

Campbell (1996: 309) warns "the planners' position at the forefront of change is not assured, especially if the lead is taken up by other professionals". It has already been shown that traditional planning has not been particularly responsive to recent challenges that have shaped our landscapes and influenced our lives, (see especially Section 3.3.3). This has led to a loss of public confidence in the profession and the discipline and to the situation where other fields of endeavour have usurped planning in some of its traditional functions and roles. In view of the likely changes that were previously postulated (see Section 1.4 in particular), it is perhaps timely to consider the responsive requirements for traditional planning to provide our

communities with the guidance and confidence that they will be seeking in the uncertain and rapidly changing environments of this new millennium.

In terms of the broad philosophical stance of the discipline, Dublin (1999: 51-52) has argued that "planning is based all too often on the war paradigm because, in a sense, it is the ultimate act of subjugating substance to form and it is surely the intellectual basis of a great deal of modern planning, especially the grandest and most ambitious schemes". He notes that a war paradigm is totally unsuited for thinking of the future, for growth and development as it encourages vast amounts of energy to be put into preparation and overpreparation, and that all too often the process produces winners and losers. His view supports Ellyard's cooperative paradigm of "Planetism" previously discussed in Section 1.4.1a and summarised in Table 1.2.

Dublin (1999) advances an alternative paradigm for future planning endeavours - Eros, (not the god of love but of connectedness). The predominant attributes of this alternative paradigm that he recognises as belonging to a paradigm for thinking of the future, includes repetition, cyclical mode of living, open-endedness, and what he terms as, cultivation. Dublin sees cultivation as the most important attribute, and comprising a constructive stance by being respectful of context and paying close attention to detail. He also believes it counters competitiveness (a war like attribute), and whilst not referring directly to the concept of cooperation, he clearly sees such an alternative as desirable. He sees his approach leading to the achievement of goals by sustained acts of will, by changing habit, custom and culture. Sustained acts, he argues are necessary because nature is forgiving in the short term but not in the long. On the question of process, Dublin quotes Umesao, a Japanese cultural anthropologist, "is it really so absurd to envisage a plan which does not take a single goal as its final end, a plan in which each successive goal emerges and grows from the process of planning itself - ie a process which is rather like a succession of makeshift expedients" (Dublin, 1999: 56). These concepts introduce the notion of flexible responses to ever changing circumstances, of partnerships for cooperative action involving learning and experimentation, and of professionals continuing to provide a similar range of services but in vastly different formats than hitherto. Emergent approaches such as adaptive management and cooperative management are case-in-points. Potential developments in these areas from traditional and allied fields of planning are explored in the next chapter.

In another sense, the broad activity of planning is under further scrutiny, as exemplified by Westley who reviewed Holing's 'creative destruction' model for ecosystems and its potential application to explain social systems¹. Along with the adaptive management approach, Westley sees a fundamental paradigm shift which has potentially far reaching consequences, particularly

¹ A detailed description and discussion of this model and the adaptive management approach can be found in Section 6.5.

for theory and practice in management. He notes that "the shift of focus from control to responsiveness has meant a re-evaluation of the functions of planning and a search for alternative processes better at generating learning and meaning"² (Westley, 1995: 395). Westley is critical of the planning process claiming it to be a "highly linear (rational) process". However this has been severely rejected in physical (spatial) planning circles now for some three to four decades - see discussion of sequential cyclic planning process in Section 3.3.1b. This difference notwithstanding, he goes on to make some pertinent comments which are equally as relevant to the traditional forms of planning, the subject of this thesis.

Westley questions the circumstances under which policy-making is receptive to knowledge generated from scientific studies and how such information is integrated into the planning process. He believes that this is conditional on two aspects, namely: the form of the scientific information; and, the strength and dominance of the organisation's paradigm informing the planning process. In regard to the first requirement, Westley argues that scientific information can only be useful if it is unambiguous, simple, not subject to multiple interpretations, and packaged in ways that it can easily be incorporated into the planning process. It will occur as long as the scientific information does not challenge the paradigms upon which the planning process is based - if not, it will be filtered out as not being pertinent. The stronger the paradigm, the more unreceptive the organisation becomes to the receipt of new knowledge. He also acknowledges that whilst larger organisations, such as government bureaucracies, are least likely to have well developed ideologies which could constrain the receipt of knowledge, this paradoxically however, represents a barrier to responsive action (Westley, 1995).

5.2 PLANNING THROUGH THE SUSTAINABLE DEVELOPMENT DEBATE

Kenny and Meadowcroft (1999: 1), in arguing for a return to planning, call on the advocates of environmental politics to consider "whether their arguments may gain in analytical precision and normative power if 'planning' - in all its senses - were more central to their thinking". They identified a prevailing sceptical climate surrounding public planning which is typically associated with government intervention, increasing pessimism about planning's ability to achieve public goals, and some notable cases of unintended consequences and undesired outcomes from past planning activities - all of which have led to a loss in public confidence in planning.

Strong arguments have been made for planning to take a central role in addressing future sustainable development issues with the intention of restoring planning's respectability (Selman,

² Westley's discussion is referring to the general field of planning endeavour, not traditional (physical or spatial) planning or variants of it. He cites exclusively from the business and organisational literature to support his assessment of planning, particularly, strategic planning.

1996; Campbell, 1996; Blowers and Evans, 1997; Kenny and Meadowcroft, 1999). It is argued that planning can provide the essential coordination between various human strategies and designs that are seeking future socially and environmentally responsible and sustainable outcomes. In a general sense, this process has commenced with a plethora of planning having already been undertaken at all levels in the wake of the 1992 Earth Summit and its Agenda 21 commitments. Kenny and Meadowcroft (1999: 5) point to recent shifts in rekindled confidence in the state to coordinate a whole range of social activities. Contrary to concerns regarding the loss of relevance of the nation state, they suggest that "the environment may well be a central domain in the next half century in helping re-articulate the relationship between state and economy in liberal democracies".

Cautiously however, Campbell questions the ability of planning to make positive contributions to the sustainability debate given its current disposition, which embrace divergent priorities that have historically challenged planners and have contributed to the root cause of the loss of faith in planning by various sectors of the community. He notes that "nothing inherent in the discipline steers planners either towards environmental protection or towards economic development - or towards a third goal of planning, social equity" (Campbell, 1996: 296). He argues that the sustainability debate has brought these opposing philosophies sharply into focus and that planners should combine their procedural and substantive skills in order to play a central role in the idealised reconciliation of these conflicting growth, environment, and social justice interests.

If planning is to redeem itself through the sustainability debate, a number of fundamental issues will need to be resolved. For example, what can planning bring to the current search for theoretical and pragmatic answers to the universal quest for sustainable futures that have conclusively been acknowledged in the literature and reviewed throughout previous chapters? What does the discipline of planning have to offer - does it possess any special or unique advantages of a substantive, procedural or practice nature that sets it apart from other fields?

Friedmann believes that planning does have a legitimate claim to a unique body of knowledge, a set of unique competences that it could claim as its own. He considers that "planners have or should have a grounding in knowledge about the socio-spatial processes that, in interaction with each other, *produce the urban habitat*" (Friedmann, 1998: 251). He cites an animal analogy to justify his human habitat concept - ie the place where we build our nest, in which we live, work and reproduce ourselves. This view is shared by Campbell 1996: 304) who notes that "if crisis is defined as the inability of a system to reproduce itself, then sustainability is the opposite: the long-term ability of a system to reproduce ... (*and*) by this definition, western society already does much to sustain itself".

However, can Friedmann's claim be extended to the research themes of this study? In particular, can his urban habitat be extended to the spatially wider but interconnected city-metropolitan region. It does make sense considering the weight of evidence now emerging suggests that the region is fast becoming the relevant spatial unit for focus and attention in the new millennium (McHarg, 1969 & 1992; Glasson, 1992a&b; Claval, 1993; Castells and Hall, 1996; Graham and Marvin, 1996; Purdy, 1996; Scott, 1996; Friedmann, 1997; Hall, 1998; Leccese and McCormick, 2000; Ravetz, 2000). In fact some of these authors believe that we have this innate legacy that sees us automatically relate to the region before we relate to the city. These issues are developed further in Section 5.4.

Friedmann has made the point that and the partial retreat of the state from traditional responsibilities and the emergent role of civil society has forced planners to dramatically change their practice. These changes range from the traditional (and exclusive) provision of central guidance of market forces and regulation, to a more entrepreneurial and less codified form of planning. Emergent forms will be characterised by collaborative approaches, consensus building and negotiated settlement processes, and a role as the provider of strategic information to all participants in the planning process. The previous discussion on global changes in Section 1.4 supports these assertions. These changes are drawing planners closer into the political process and confirming their potential role in the mediating function of that process. A further issue relates to power, and here Friedmann distinguishes, what he calls 'enabling power', (ie. enabling people to achieve individually or collectively), from 'coercive power', (constraining and controlling peoples actions). He calls for the relations of power to be incorporated into planning's conceptual frameworks. However, he acknowledges that this will not occur until "we ground our theorising in the actual politics of city-building, acknowledging that the production of urban space involves the interaction of conflicting interests and forces, not least the growing force of organised civil society itself" (Friedmann, 1998: 253).

This view is reconfirmed by Campbell who has a number of concerns about the present notion of sustainability that planner are attempting to work with. He believes that it romanticises "a misty eyed peaceful ecotopia" that is too vaguely holistic and of limited contemporary application, and consequently it is susceptible to the same criticism of vague idealism that surrounded comprehensive planning some thirty odd years ago. However, he argues that through redefinition and application to actual political decision-making, it could become "a powerful and useful organising principle for planning" (Campbell, 1996: 297). In this manner planning would act as the lightning rod in the sustainability debate, focusing conflicting environmental, ecological and social interests, and stirring up and sharpening the debate to produce a more effective understanding of sustainability.

Using a socially constructed view of nature, Campbell argues that planners work within the tensions created by the three fundamental goals of economic growth, environmental protection and social equity, which he represents as his "planners triangle", with sustainable development located at its centre, (see Figure 5.1).

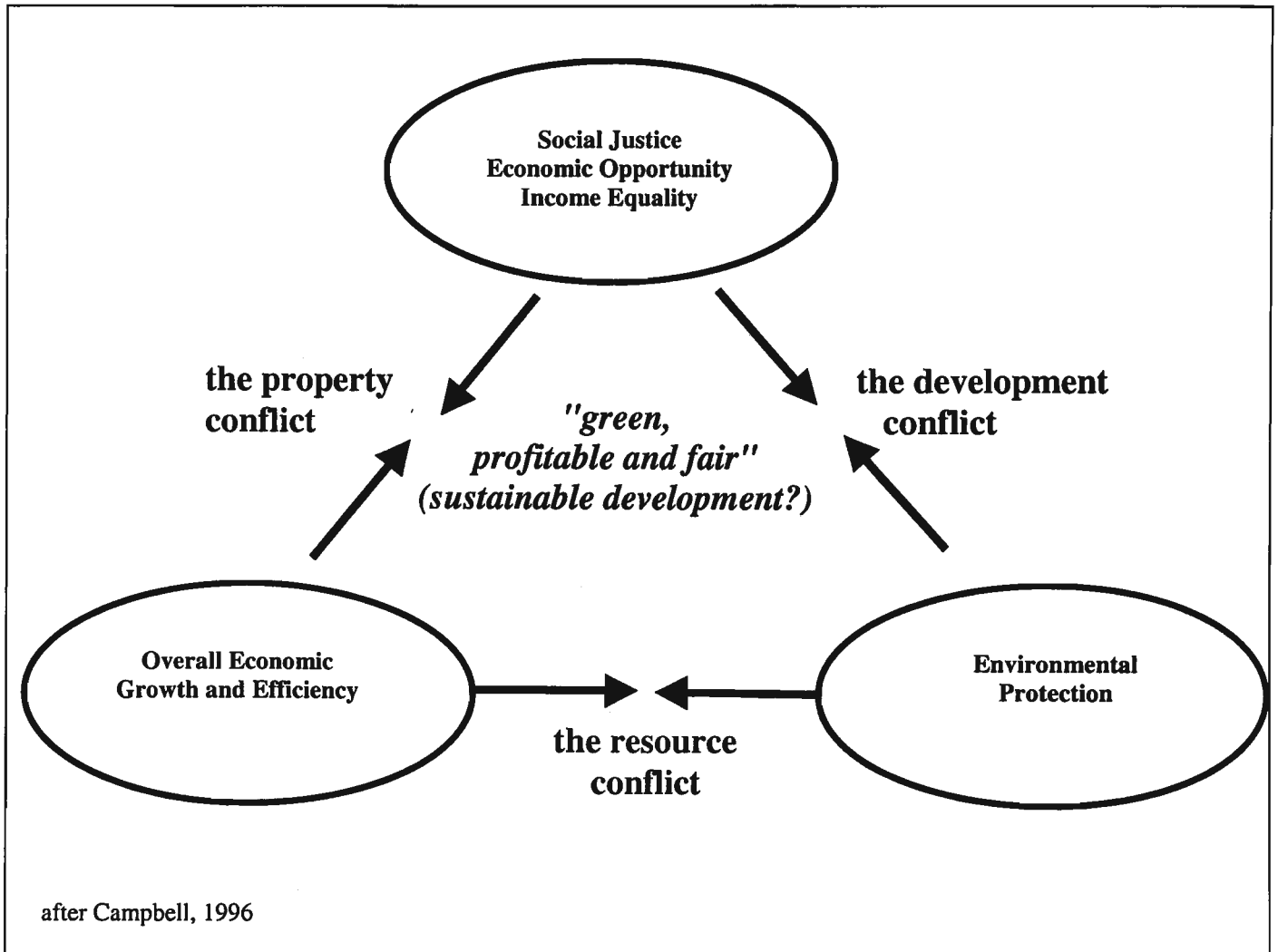


Figure 5.1: Planner's Triangle of Conflicting Planning Goals

In this model the centre is never reached directly, instead it is only approximated and then only through a sustained period of confrontation and resolution of the triangle's conflicts. Thus the apexes of the triangle represent different (often opposing) views and Campbell notes that in reality there are many such different views and so pentagons or polygons could be constructed. Using this triangular concept, Campbell demonstrates that the three divergent points of view lead to three fundamental conflicts, namely:

1. The property conflict - ie a conflict between economic growth and equity which could arise from competing claims on and uses of property;
2. The resources conflict - ie. the economic-ecological conflict between the need to regulate resource exploitation to ensure future stocks, and resistance from current users; and
3. The development conflict - ie. essentially it is a conflict between increasing social equity whilst simultaneously protecting the environment, a conundrum which Campbell considers may be the most challenging in the sustainable development debate.

What this diagram demonstrates is that the mid point representing sustainable development relies on balancing the three goals and resolving the three fundamental conflicts - and that this in reality represents a significant challenge to society. Campbell shows that whilst the three apexial views can be the source of strong conflicts, they can also, through collaboration, be the source of resolution of the three axial conflicts.

As the path to sustainability will be long, and littered with conflict, planning could aid in diffusing these conflicts and provide a planning process with which to progress and evolve towards sustainability. Campbell believes that success could be facilitated by merging substantial and procedural approaches, ie. combining the substantive vision of all parties to the potential conflict with the negotiating skills of the planners, which they currently practice. He also acknowledges that nothing is to be gained through the application of a conventional process, ie one where the process commences with some premise of sustainable development derived in academia. Instead, he argues that the planner's vision of a sustainable development can best be developed at the conclusion of the contested negotiations (facilitated by planners), over land use, environmental, social and economic development policies. In this regard, he argues that "perfecting the theory of sustainable development before testing it in community development is backwards" (Campbell, 1996: 305). This view provides strong support for an adaptive approach to environmental management, an issue discussed at length in Section 6.5 and in the case study review in Chapters 8 and 9. It also suggests that the planning process must maximise the opportunities for community participation - issues that are also taken up in subsequent sections and in the chapters addressing the case study.

Campbell considers that there are a number of potential roles for planners, including the management and resolution of conflict, and the promotion of creative technical, architectural

and institutional solutions. He also points to the problems that arise from the disparate languages of environmental, economic and political thought, and that translation across these disciplines at both the conceptual and the empirical levels, whilst alone is not enough to eliminate these clashes of interests, is needed. Planners coming from a multidisciplinary background would be ideally suited to preform this vital role of translator.

In all future approaches to sustainable development management, including the existing decision-making structures (ie the political and the market systems), planners can provide a useful role in the arrangement of the procedures for decision-making. Where decision-making structures do not presently exist, Campbell argues that it is planning's role to help shape that structure in order to give the process creditability. This is an important issue in respect to the Logan-Albert case study and is taken up in Chapters 8 and 9. Again it reinforces the point that one of the planning discipline's major contribution to the environmental management field is the planning process. Campbell also acknowledges that "land-use planning remains the most powerful tool available to planners, who should not worry too much if it does not manage all problems. The trick in resolving environmental conflicts through land-use planning is to reconcile the conflicting territorial logics of human and natural habitats ... (*as*) ecological and economic systems require the interconnectivity of critical mass to be sustainable (*where*) the guiding challenge for land-use planning is to achieve simultaneously spatial/territorial integrity for both systems that (*also*) aspires to social justice" (Campbell, 1996: 307). To this end, Campbell, sees bioregionalism as "a comprehensive vision of sustainable land-use", whilst noting its shortcomings such as its utopian thinking and its excessive faith in a regional fix from its ecological determinism. He also sees a natural synergy for the profession emerging through greater collaboration between the community development planner and the environmental planner.

From the forgoing, a number of potential roles for planners in the ongoing sustainable development debate have emerged, including: mediator; negotiator; translator; facilitator; coordinator; information provider; and interpreter. This listing is confirmed by Alexander (1992: 107-110) who has identified the following categories of essential roles for planners:

1. Technical-Administrator: provides technical expert advice to elected officials. This is the traditional role of planners in a government context.
2. Mobilizer: in a political role, the planner develops allies (from government agencies and the public), in order to gain support for plan implementation.
3. Mediator: another political role, the planner assumes the role of mediator or broker in order to get the planning process underway or to enable implementation.
4. Entrepreneur: support for the plan is sought by gathering the resources needed to implement it.

5. Advocate and Guerilla: the planner represents special interest groups. Institutionalised through public participation programs of government.
6. Other Roles: often a reaction to the traditional technical-professional role. Can include the "midwife" or "physician" role where the planner assists in the process of policy development and decision-making. The "adviser" is a further example of emergent roles. Others include the planner as "interpreters" or "communicators".

To these variety of roles, Forester (1999) adds the 'bridge-building' and 'negotiation' dimensions. He considers that the ordinary challenges of planning are quite 'extraordinary' and include the requirement on planners to inform, advise, and to coach public officials, and appointed, elected and grass-roots decision-makers. This list suggests that certain characteristics and attributes should be associated with planners operating in these modes, namely: multidisciplinary skills; scientific and technical skills; negotiation, mediation and facilitation skills; listening, reflective and appreciation skills, creative skills; entrepreneurial skills; and politically savvy. Forester (1999: 3) contends that working through the "eyes of many different actors, planning analysts try to build critically informed but pragmatically viable agreements making public deliberation work, making participatory planning a pragmatic reality rather than an empty ideal". A similar but broader view is taken by Turner who describes a future where planning will become more plural with all kinds of plans being produced by all kinds of groups. The planners' job will become "that of making plans, of assisting others to make plans, of fitting plans together, of supplying information, of resolving conflicts, of helping with implementation" (Turner, 1998: 27). These view of the contemporary planner are also shared by McHarg who considers the ecological planner to be a 'catalyst' who "suppresses his own ego and becomes an agent for outlining available options offers predictability that science gives him about the consequences of different courses of action helps the community make its values explicit identifies alternative solutions with attendant costs and benefits" (McHarg and Steiner, 1998:130).

Two further attributes are in question, specifically the attributes of partisanship and political stance. One view holds that if planners are to gain acceptance as mediator, negotiator, facilitator, or coordinator, they will have to demonstrate their complete impartiality through non-partisanship and an apolitical stance. Campbell (1996) however, sees two completely different strategic roles for future planners in the sustainable development debate. Both will require planners to orientate themselves within the triangle but to clearly identify their loyalties and role in the conflict. In the first option the planner position themselves outside of the conflict and acts as an independent, non-aligned mediator. In the second, they are totally involved in the conflict and promote their own visions of sustainable development in an advocacy role. These

considerations also provide strong links to the strategic, ethical and personal considerations of the role of the researcher previously discussed (see Section 2.5).

Alexander (1992: 110) concludes by reconfirming the importance of the planner's political context, commenting, "the effective planner is one who appreciates the realities, opportunities and constraints of the institutions in which she is acting and their wider political environment". This position is fully supported by Taylor (1998), Forester (1996 and 1999) and Evans and Rydin (1997).

5.3 EMERGENT PLANNING PARADIGMS

The response to the continuing calls for new but as yet undefined forms of planning must address the question of the adequacy and applicability of traditional planning from which to build. Indeed the question must be posed: does it differ from these other forms of planning, especially those that have emerged from allied disciplines? These questions suggest that we need to resolve the basic issue as to whether new planning and management paradigms are required for landscape management, and then identify any common links and themes which can cross-fertilise and inform evolving forms of traditional planning.

This section will demonstrate that there have been a series of parallel but uneven and sometimes unrelated developments within different discipline areas and professions. These developments have touched on the issues of environmental and resource management systems, the scope of inquiry in terms of defining the attributes of the environment, and the appropriate scale for the focus of planning and policy attention. In some cases, such as the field of landscape architecture, there has always been a natural association with the landscape and the biophysical elements. However, in recent times it has had to address the issues of broadening its scope to embrace the other non-biophysical environmental dimensions, and to demonstrate the applicability of its concepts beyond its traditional site scale to the larger regional scale. Regional planning has waxed and waned within the traditional planning field, but has recently been given renewed emphasis through the advocacy of allied and associated professions who have been seeking appropriate scales to address the sustainability challenges emerging in their respective fields.

Strong advocacy has also emerged for comprehensive and integrated approaches giving rise to the promotion of the systems approach that facilitates the full appreciation of all components and interactions of the environmental matrix. Associated developments have seen the advancement of strong arguments for the employment of the ecological paradigm as the basis for study, analysis, planning, policy development and overall management.

The following sections examine the emergent planning paradigms as they have evolved within a number of different, yet key, planning fields of direct relevance to this thesis' research themes.

5.3.1 Landscape Planning

Whilst maintaining separate discipline and professional status in this and many overseas countries, there is a close working relationship between landscape architecture and traditional planning. This relationship is evidenced in cooperative working associations in academia (linked institutions and courses); literature (eg *Landscape and Urban Planning Journal*); joint collaborative work of professional consulting firms; and linked bureaucratic and institutional organisations of many governments. In fact, in North America, it is not uncommon to find a synonymous use of the terms 'landscape' and 'land use' in respect of planning. In yet other instances, the apparent gulf between traditional 'orthodox' planning theorists and those from the 'organic' school seems formidable (McHarg and Steiner, 1998).

a. Genesis of a philosophical and professional foundation

In terms of historical roots, Klosterman (1996: 159) has pointed out that along with architecture, the field of landscape architecture is credited with providing the planning profession with its organisational roots with these being reflected in the early views of planning, namely, "doing for the city what architecture does for the home".

The essence of the debate over the intellectual nature and core of the landscape architecture profession is summed up by early writings of Eliot. In 1910 he wrote "landscape architecture is primarily a fine art, and as such its most important function is to create and preserve beauty in the surroundings of human habitations and in the broader natural scenery of the country; but it is also concerned with promoting the comfort, convenience, and health of urban populations, which have scanty access to rural scenery, and urgently need to have their hurrying, workday lives refreshed and calmed by beautiful and reposeful sights and sounds which nature, aided by the landscape art, can abundantly provide" (quoted in Zube, 1998: 77). Zube makes the point that such a (utopian) definition would not have been acceptable to the US authorities at that time to enable its registration as a profession, because it did not significantly address the critical issues of public health, safety and welfare. Whilst there are some similar professional objectives for managing the urban environment to those of the early town planning profession, that is where the similarity finished. Clearly, the early landscape architecture profession sought broader objectives concerned with the health and wellbeing of the natural environment generally - using the notion of scenic beauty. Zube makes the observation however, of the recent emergence of, (or perhaps a return to), a debate over Eliot's earlier definition for the profession as a fine art. He concludes, "what message should be sent now that landscape architects have

achieved a significant degree of recognition as one of the environmental design and planning professions?" (Zube, 1998: 79). McHarg takes up this challenge when he comments "... this will require a fusion of science and art. There can be no finer challenge. Will the profession of landscape architecture elevate itself to contribute to this incredible opportunity? Let us hope so. The future of our planet – and the quest for a better life – may depend on it..."³ (McHarg and Steiner, 1998:201).

With the emergence of modern forms of landscape planning at the end of World War 2, its early proponents saw it as embracing (implied) management and the creative designs for broad landscapes (Crowe 1969; Hackett, 1970; McHarg, 1969; Laurie, 1986). They considered the prime objective was to ensure that "landscape changes continue to provide habitat conditions that will accommodate the various forms of life, either in the existing pattern or, if the habitat conditions are changing, in a new pattern" (Hackett, 1970: 1). Crowe (1969) emphasised the aesthetic and functional aspects of appeal and enjoyment when she used the term "creative conservation" to describe what she considered was entailed in the process of landscape planning, notably, the reconciliation and incorporation of competing land uses in the landscape without destroying the natural and cultural resources on which society is founded.

Hackett (1970: ix) saw landscape planning's "particular connotation which stems from its ecological basis ... (*to imply*) an understanding of the pattern of natural habitats and an acceptance of the principles of evolution and survival in the development of the landscape". He was a clear advocate for the "injection" of the aims and objectives of landscape planning into whatever forms of statutory planning were available, noting "it would not be feasible or wise to rely upon the precepts of good traditions in landscape development or upon developers whose morality respects Nature". Hackett also argued for social and economic considerations to be incorporated into the landscape planning process, but also saw situations when aesthetic factors would dominate. Contemporary views hold that landscape planning is a process through which to pursue biodiversity conservation, thus continuing to emphasise and reinforce its strong ecological base (Steiner, 1991; Rookwood, 1995).

In terms of the Australian context, Pike notes that "it is interesting that in a country which is so much in need of careful husbandry and land management methods, the profession of landscape architecture was very slow in developing" (Pike, 1979: 85). He attributes this to the lack of fervour during the mid 1800s to the social and environmental reforms that swept Europe and North America, the depressions of the 1890s and 1930s and the two World Wars. He notes that the advent of landscape architecture in Australia was coincident with the emergence of nation-

³ McHarg was replying to President Bush's statement that "it is my hope that the art of the twenty-first century will be devoted to restoring the earth" – quoted in McHarg and Steiner (1998:201).

wide environmental concerns of the 1960s⁴. In a similar manner to overseas experience, landscape planning in Australia has been slow in gaining recognition as a serious complimentary planning approach.

b. The ecological dimension

A significant and pragmatic contribution to the ecological underpinning of the landscape architecture profession came from McHarg with his seminal 1969 publication: *Design with Nature* which he describes as “a book on ecology and planning” (McHarg, 1996: 199-200). Interestingly, he appears not to have used the term landscape planning to describe his work. He would acknowledge that he best advocated this important link, claiming, “I had spent perhaps a decade trying to develop ecological planning I became a strong advocate of ecological planning ” (McHarg, 1996: 360).

McHarg defines ecological planning as “that approach whereby a region is understood as a biophysical and social process comprehensible through the operation of laws and time. This can be reinterpreted as having explicit opportunities and constraints for any particular human use. A survey will reveal the most fit location and processes” (McHarg and Steiner, 1998:195).

Whilst there are calls for a greater degree of ecological input into planning, the notion of a discrete 'ecological planning' field is far from definite. Early in the last decade, Alexander (1992: 105) argued that “.... none of the proponents of any of the (planning) models would claim that their approach is on the wave of the future. The only hint of an exception is an occasional proposal for 'ecological planning' ”. Alexander defined ecological planning as the recognition of the mutual interdependence of natural, human and social systems, and employing ecological concepts and tools. However this has not gained in professional popularity and whilst the literature embraces the concept, it appears not to have enjoyed the widespread support necessary for this distinction as a separate field of study or discipline.

Forman (1995: 444) coined the term "landscape-ecological planning", although he notes that landscape planning has developed independently of landscape ecology. To Forman, the former "usually focuses on humans, and how the land can be effectively designed for their use". He notes that environmental characteristics, visual quality or cultural characteristics are examined in order to accommodate human activity with minimal impact to the landscape. He adds that landscape ecology has added a further dimension to landscape planning, specifically in the following areas: rural and agricultural land; natural resource areas for forestry, wildlife and

⁴ Interestingly, the Australian Institute of Landscape Architects (AILA) was formally inaugurated in Queensland in 1966 as it was the only state at that time that recognised the term landscape architect, (Pike, 1979).

biodiversity; and corridors and greenways. Forman (1995: 522) considers that our most pressing challenge is to "discover an optimal spatial arrangement of ecosystems and land use that makes ecological sense in any landscape or region (*that seeks*) to maximise ecological integrity for achieving human needs (*and*) for creating a sustainable environment". Forman advocates for the incorporation of the following five specific "sustainability" dimensions to achieve "a broad spatial-and-ecological plan for every landscape (*comprising*) (1) a time frame of human generations; (2) an equal balance of ecological and human dimensions; (3) a focus on slowly changing attributes; (4) a focus on relatively objective assays; and (5) the optimal spatial arrangement of elements now rapidly emerging from the study of land mosaics" (Forman, 1995: 523).

To Forman (1995: 524), "landscapes and regions are a 'surrogate for long term' when we plan conserve design manage make wise decisions for landscapes, and especially for regions, we manifest sustainable thinking and act for human generations".

McHarg's further contribution to the planning and management of landscapes was through the elevation of our thinking (and treatment) of landscapes to the regional level. Le Gates and Stout (1996: 133) describe MchHarg as "an unabashed regionalist, convinced that cities must be planned in relation to their natural regions. He was among the first planners to draw on ecological theory to stress the interconnectedness of natural systems and the value to urban areas of often ignored resources such as wetlands, marshes, airsheds, and aquifers". In an additional sense, MchHarg's ecological planning approach also incorporated another contemporary dimension – that of "an ongoing (*planning*) process, one where information about a place is used to chart paths for its futures" (McHarg and Steiner, 1998:278).

By contrast, in some quarters there was total rejection of the Mumford-MchHarg 'organic' tradition. This was exemplified by Friedmann's criticism who confessed to be "quite intolerant of the 'organic' school of regional planning (*claiming to*) have not found a way to integrate their work with the approach to regional planning (or spatial planning) that comes out of the socio-economic tradition" (Friedmann in MchHarg and Steiner, 1998: 94).

c. The social and cultural dimensions

In terms of other dimensions to the field of landscape planning, Olmsted clearly included a social dimension to his pioneering work as a professional landscape architect. Zube (1998: 76) has noted, "Olmsted was among the first, if not the first, to develop a vision of what American cities could be in a growing industrial age. Olmsted's vision was as much of a social landscape as of a physical landscape". MchHarg (1992: v) was later to acknowledge that "there is one serious omission" in his original work, namely, the neglect of social systems, due to the fact that

he considered "social science conspicuously economics, was antithetical to ecology, while the remainder, including sociology, history, government and law, was oblivious to the environment".

More contemporary views now hold that landscape planning has both social and cultural dimensions. Linehan and Gross (1998) consider landscapes to be more than a scale and set of interacting ecosystems. They claim that landscapes are not only a container of resources but are themselves resources - they are simultaneously ecological, cultural, economic, political, poetic, ideological, and symbolic sociospatial phenomena.

If landscape planning has acknowledged and incorporated these ecological, social and cultural principles into a broader intellectual base compared to traditional planning, has it achieved success? Linehan and Gross think not, arguing that whilst landscape planning has achieved moderate success in terms of clarifying its ecological relevance, it has failed to prove its social relevance to society. They argued that pioneers of their profession, namely, Olmsted and McHarg, not only were able to formulate and articulate socially and ecologically relevant arguments to address the landscape problems of their times, but they also were able to challenge the dominant social paradigms and practices that were detrimental to those landscapes in the first place. This has led them to challenge their profession to become "more socially relevant *(to)* become aware of, account for, incorporate, and challenge the problems and opportunities that cultural adoptability, economic viability, social equitability, and political relevance have on the condition of our landscapes *(noting that)* although natural processes largely determine the ecological condition of our landscapes, social processes will continue to determine the directionality these processes take" (Linehan and Gross, 1998: 209).

Linehan and Gross correctly conclude that it will be society that will ultimately determine whether and what degree our landscape becomes sustainable. This is also a view shared by Luz, who, quoting Hirsh (1992), notes that "as a rule, landscape planning aims can only be accomplished with collaboration of the local actors and stakeholders *(as)* the implementation of ecological concepts stems from social rather than ecological systems" (Luz, 2000: 157). This then raises the question as to whether there is an imbalance between the technical knowledge and methods of landscape planning and the cultural, economic and political knowledge, perceptions, and practices of the people who will ultimately determine the condition of the landscape. The issue of public involvement in landscape planning was of concern to early landscape planners such as Hackett. In 1970 he commented that "landscape by virtue of its continuity over the land and over the centuries is of public concern, whether in private or public ownership *(and)* if public participation is to be real and not given lip service, the proposals should be readily available for public inspection and comment" (Hackett, 1970: 111). In

calling for socially relevant practice, Linehan and Gross (1998) argue for the engagement of open and participatory planning processes so that landscape planning can receive adequate attention in larger planning circles.

This relatively recent intellectual extension to embrace social and cultural aspects and to position landscape planning more into the public domain and bring the field to the community decision-makers and implementors merely demonstrates that even within the landscape architecture profession, the field of landscape planning is moving towards more 'holistic' models - involving integrated management.

d. The Scientific approach

On the question of the application of science to landscape planning and design, Laurie (1986: 106) advocates a landscape planning process comprising "a scientific aspect concerned with research and a shaping aspect based on the research; the two parts result in the production of a policy statement. The landscape plan sets out the framework and the lines of action by which the landscape is to be adjusted in accordance with ecological principles to meet the needs of changed circumstances". McHarg likewise was credited with the use of a scientific approach to landscape planning. Walker and Simo (1994: 277) comment, "in practice, McHarg has typically offered scientific arguments for a particular land-use plan, backed by economic justification - often bottom-line profits. Yet the starting point of analysis is the natural environment - not human need or greed". Supporting argument also comes from Linehan and Gross (1998) who charge that landscape planners must support claims of sustainable development plans, and even ecologically benign ones through the application of sound scientific theory and method. Further support for a scientific approach to landscape planning comes from Selman and Doar (1991); Rookwood (1995); and Wilkin, (1996).

Rookwood (1995) also advocates that landscape planning should be based on well informed scientific analysis, linked with pragmatic policies in an effective planning process that displays certain scientific qualities including a well researched and understood plan and a process that is cyclical through monitoring and review.

e. Summary of special attributes

The principle thrust of the previous views are consistent with those articulated by Low Choy (1987) and Low Choy and Bull⁵ (1990), who cited the following distinguishing landscape planning criteria:

⁵ Academic staff who co-guided the original LCC "*Watercourse Management Strategy*" that initiated the Logan-Albert case study.

1. it has a strong ecological and cultural base and ecological and cultural principles and objectives are afforded a high priority throughout the planning process;
2. it seeks to rationalise ecological and cultural objectives with the economic and other objectives of sustainable development, consistent with the objectives of the WCS and the NCSA;
3. it pursues multi-purpose objectives as opposed to single-purpose objectives;
4. it is responsive to community needs and values whilst continually striving to match ecological with cultural and community priorities;
5. it actively seeks opportunities for the integration of the natural and cultural elements thereby providing opportunities for the fullest appreciation and enhancement of cultural landscapes;
6. it consequently has a very strong focus on the visual and experiential environment, and hence, visual resource management is given a high priority in traditional resource management terms;
7. it has a problem solving dimension and it seeks solutions through the design process; and
8. it must be interventionist in order to address contemporary problems and issues, and it must be attuned to the political decision-making process.

Turner (1998)⁶ believes that the planning process needs to be led and inspired by long-term and high-level ideals such as beauty, harmony, composition, sustainability, health and spirituality. He further believes that it is difficult for statutory planning to provide this lead and that the task should and must fall to landscape planning. In fact, Turner has argued that there is evidence where non-statutory plans have succeeded because those plans did not have the force of law, and cites the London Open Space plan as a case-in-point. The question of the links (if any) to statutory planning will need to be addressed and balanced against those other arguments by authors who suggest some forms of statutory controls for the enforcement of landscape policies are necessary to achieve the objectives (see Hackett, 1970, McHarg 1969 and 1996. See also Section 3.3.5d).

As previously noted, Linehan and Gross (1998) seek to achieve socially relevant practice for landscape planning. To this end they recommend it be sought through a number of means, including the conduct of true interdisciplinary education and research particularly between landscape and urban planning; through bridging the gap between landscape planning theory, method, and practice; addressing political, economic, and cultural issues, factors and processes in a politically timely and culturally accessible fashion; and the encouragement to engage in open and participatory planning processes.

⁶ Like McHarg, Turner is a Town Planner and a Landscape Architect and he readily uses the term "landscape planning" to also embrace traditional planning.

Biggs (1995) quoted in Linehan and Gross (1998: 217) argues that this can be achieved through an applied research approach which is "typically simpler and more participatory, democratic, and egalitarian (*claiming that*) in these cases, researchers were able to respond to specific local requests by designing on-the-spot methods and techniques, and allowing local communities to go through their own process of risk assessment, resource allocation, implementation, and institutionalisation". The theoretical basis for this participatory action research approach has previously been discussed (see Sections 2.5 and 2.6). Its application to the Logan-Albert case study is outline in Chapters 8 and 9. Action research as well as conventional approaches require effective monitoring strategies and programs. Wilkin (1996) has argued that we should be monitoring local progress towards sustainability by a proposed method of sustainability accounting based on identifying unsustainability at the local jurisdictional levels. He considers that this can be achieved by critically applying landscape planning expertise to the development of systems for the comprehensive monitoring of human ecosystem productivity. Not-with-standing, his idea has potential merit in the wider sense, as he himself has pointed out, that quality of life issues which are commonly sought-after objectives of most contemporary planning endeavours, are not well understood and imprecisely measured at present.

The preceding discussion in this section has argued that the landscape architecture profession, particularly the field of landscape planning, can provide society with a discipline base and professional expertise in core areas including regional scale landscape design, landscape ecology, and social and cultural aspects related to landscape design. To this list we can also add the ability to design for rehabilitated landscapes which perhaps gives the field the 'enhancement' ability, the much sought after objective of many planning undertakings. Specifically, it would appear that landscape planning has the potential to offer:

- a philosophical planning foundation based solidly on ecological principles;
- an emerging philosophical planning foundation incorporating social and cultural principles;
- a philosophical and evolving methodological base to address 'nebulous' landscape issues such as scenic quality, landscape aesthetics, human perception and cultural affinity to landscapes;
- a broad scale approach for planning large landscapes, regions and natural entities such as catchments;
- a planning approach that can address strategic and long-term issues;
- a scientific approach facilitating the incorporation of scientific information and methods into the planning process;
- a design approach providing the best spatial fix consistent with ecological principles, aesthetic considerations and social analysis of user needs;

- a planning approach that can lead to the management of landscapes, both natural and constructed; and
- a planning process that can facilitate open and participatory planning in the context of a participatory action research approach.

The future context to realise the opportunities for a landscape planning approach has been summed up by McHarg (1992: vi) who wrote, "... in 1969, while many people accepted the proposition **Design with Nature** - there was no legislation empowering or requiring ecological planning now the situation is vastly different and it is the new legislation which provides this book with an enlarged purpose the power to employ ecological planning from national to local scales has accumulated slowly. Serious omissions remain, notably the fragmentation of environmental sciences and the plethora of responsible institutions, but there are now innumerable opportunities to employ the (*his*) method".

5.3.2 Bioregional Planning

a. Genesis of Bioregionalism

Bioregionalists advocate the embrace of ecological thinking in order to develop sustainable cultural practices and organisations. McGinnis (1999: 71) quoting Shepard, considers "Ecological thinking requires a kind of vision across boundaries". McGinnis has noted and linked the origins of bioregional thinking to indigenous cultures and their relationships with the landscape. It is considered that industrialisation and its associated economic, social, institutional and administrative structures have removed this imperative from our immediate consciousness. In discussing the diverse nature of the bioregional movement, McGinnis quoting Aberley has discussed its spiritual, historical, cultural, artistic, literary and geographic identities. He describes bioregionalism as "a grass roots doctrine of social and community-based activism that has evolved wholly outside of mainstream government, industry and academic institutions" (McGinnis, 1999: 4). The mid 1980s witnessed a major evolution of the bioregional movement with its spread throughout the grass roots levels of various communities in the.

Aberley (1999) has noted the sharply divided intellectual debate that surrounds the recent focus on the concept and that abounds in the literature of the last two decades. Essentially it includes those on one side of the debate who seek to apply the concepts of bioregionalism to what is considered, narrow disciplinary interests of planning or geography, and who would argue that the philosophy has been imbedded into early works of those disciplines. Opposing views hold that the concept has a much broader role that it is a means to inform a process of transformative social change that operates at two levels, namely: in reaching a sustainable

society and as a political movement for the devolution of power to culturally and ecologically defined bioregions.

Its discovery by mainstream government institutions, politicians, environmental policy makers and natural resource managers did not occur until the early 1990s. As noted by Aberley (1999: 34) "the language of bioregionalism has been appropriated to assist in the conceptualising experiments in institutional and organisational reform (*but*) with little reference to or contact with the grass-roots bioregional movement".

b. Contemporary Bioregional Approaches

One of the 1992 *Global Biodiversity Strategy's* five key strategic objectives calls for the strengthening and broader application of the tools for conserving biodiversity. It advocates that "biodiversity conservation efforts must be planned and implemented 'bioregionally' to reflect both ecological and social realities (*where*) under a bioregional approach, cooperation among sectors, and sometimes across national boundaries, would be built in, (*but*) changes in the organisation of government agencies are needed to carry it out, as is broad participation in decision-making", (WRI/IUCN/UNEP, 1992: 24). This was not a new concept. As early as the 1920s, regional planners such as Mumford, had proposed the "ecoregionalism" concept as the means to overcome what he saw as the inabilities of the bureaucratic state to solve the cultural and ecological crisis of that time (Mumford in Sussman, 1976).

A bioregion has been defined as land and water territory whose limits are delineated not by political boundaries, but by the geographical limits of human communities and ecological systems (WRI/IUCN/UNEP, 1992; CoA, 1992c; Selman, 1996; Miller in Stolton and Dudley, 1999; Brunckhorst, 2000). This is consistent with contemporary views which hold that bioregions are simply more than ecologically defined regions in that they should also reflect a sense of place, a human identity with the local regional landscapes (Hancock, 1996; Brunckhorst, 2000). It needs to be large enough in order to maintain the integrity of the region's biological communities, habitats and ecosystems; support important ecological processes; meet the habitat requirements of keystone and indicator species; and include the human communities involved in management, use and understanding of biological resources. It needs to be small enough for local residents to consider it home. The bioregion also needs to have its own unique cultural identity as well as being a place where the local residents have the primary right to determine their own development within a framework that also accommodates other stakeholders, (WRI/IUCN/UNEP, 1992). Thus it is argued that a bioregion is comprised of interactive and dynamic components capable of adapting over time in a flexible manner. Within this ecological and social framework, stakeholders share responsibility for cooperative land-use planning and for implementing sustainable development options. The *Global Biodiversity*

Strategy notes that "innovative forms of institutional integration and social cooperation are needed (*requiring*) dialogue among all interests, participatory planning, and great institutional flexibility " (WRI/TUCN/UNEP, 1992: 100). To this end, Brunckhorst (2000: 25) cautions, "bioregional frameworks will only be of value if they are meaningful for planning and management across political jurisdictions and can integrate multiple resource sectors or land uses. This requires cross-jurisdictional, cross-sectorial and inter-agency ownership, and identity with and responsibility for the bioregion (*and*) the delimited bioregional context should match or approximate in some way the identity and understanding that the local communities have of the landscape environment in which they live and work". He defines bioregional planning as "a planning framework which allows for the various defined and tenured areas of land or sea within a bioregion to be managed in a complimentary way to achieve long-term conservation, resource use and human lifestyle objectives in concert with local communities" (Brunckhorst, 2000: 37).

McGinnis (1999: 2) shares this view, arguing that "a bioregion can be restored and sustained if a society fosters the institutional capacity of communities to participate and cooperate to preserve the commons". Placing this in the broadest of contexts, Kemmis the Forward to McGinnis (1999), argues that the main external contributors that have favoured current moves towards bioregionalism have been globalisation and the devolution of power downwards from national governments. The results are the evolution of organic regions with the emergent capacity to operate within the continental and global context.

Swanson and Greene (1999: 55) note that "scientific study of region-scale biological phenomena has also developed substantially over the past decades, with roots in bioregional sciences such as biogeography, regional economics of natural resources, and water resources of large basins (*commenting that*) bioregional science has grown in part by efforts to fill a critical gap in the difficult problem of scaling our understanding from local to global on the question of how human activities interact with the atmosphere and with terrestrial and aquatic ecosystems".

c. Bioregional Assessment

In discussing bioregional assessments, Thomas (1999: 20) supports the view that "agencies must act in a coordinated and collaborative fashion from the beginning in the assessment and development of alternatives for management. That cooperation must carry through into management". Johnson and Herring (1999) consider that bioregional assessments can build understanding about the bioregion and the consequences of particular actions, provide principles for future management, and help solve problems.

Thomas (1999: 17) has reviewed some fifteen years of practical experience in the areas associated with bioregional assessments. Interestingly, Thomas's findings are consistent with the contemporary and more progressive views of planning, especially the emergent field of environmental planning. Threaded throughout Thomas' conclusions is the clear multidisciplinary nature of these endeavours – what Slocombe (1998b) refers to as a transdisciplinary approach within a multiple objective study that requires coordination of process, data, and the specialist/disciplines involved. Coordination of this form has been a mainstream task of traditional planners, and as discussed in Section 3.3.1b and c, planning is well placed to provide this coordinating mechanism.

Cortner, Wallace and Moote (1999: 80) put bioregional assessments into (political) context when they state, "the bioregional assessment is not an end in itself and will not provide the ultimate 'answers' (*it*) is an important tool in an ongoing, collective process of learning and evaluation assessments should be policy relevant, done in a timely manner, and with clear restraints on costs. Assessments are one small part of a larger political process of debating and deciding resource issues".

In continuing to advocate the benefits of bioregional assessments, Herring (1999: 7) comments, "much of what is discussed indicates a changing field for science, management, and policy. Bioregional assessments are a step towards managing land and resources in a new way, using an ecosystem approach to coordinate management across interconnected ecosystem and economies". This is also the thrust of the three principal research themes and the research question of this thesis.

d. A Bioregional Framework

Johnson et al (1999) and many other authors advocate for a more scientific planning process involving the introduction of a scientific approach into the assessment of planning data used to generate options and policies for political decision-makers. Not-with-standing the concerns of Westley (1995) already noted in Section 5.1, there are a number of impediments which will have to be addressed in order to achieve these outcomes. This challenge is summed up by Brunckhorst (2000: 46) who notes that "people traditionally responsible for policy, law, planning, and infrastructure developments (politicians, bureaucrats, social scientists, lawyers and engineers) generally have little or no training in ecology. Likewise, ecologists tend to be equally ill-equipped to understand social needs, policy, finance or planning"

The absence of a scientific approach does not necessarily require the abandonment of traditional planning practice, nor does it mean that traditional planning is incapable of adapting to meet these changing and evolving requirements. In fact it is argued that this is precisely what is now

occurring and that selective versions of the emergent field of environmental planning is a case-in-point (see Section 5.3.4 below). However, just as Herring has concluded, we are currently at the crossroads where our current knowledge is tentative at best, our endeavours currently fall short of being an exact science, and are characterised by imperfect understanding although evolving all the time (in some instances, rapidly), but where there appears to be consensus that we are a step along the path towards "integrative science, ecosystem management, and collaborative decision-making" (Herring, 1999: 8). This is a view supported by Brunckhorst (2000: 133) who sees a bioregional framework as the means "to provide a flexible, iterative and adaptable (though scientifically based) tool-box for decision support and strategic planning".

In terms of the specific attributes for a bioregional framework, McGinnis (1999) has advanced a set of principals for establishing a bioregional organisation that incorporates the essential characteristics of bioregionalism. They include:

- *Interdependence*: the recognition of a strong and undeniable connection between natural and social systems;
- *Autopoiesis* (or the value of self organisation): a system's self-organising capacity - the unity and (cooperative) relationship between the system's parts, upon which a system's self-organising capacity depends;
- *Adaptability*: the bioregional boundaries should reflect the self-producing and self-withdrawing characteristic of living systems; and
- *Self-regulation*: to sustain the social system bioregionalists should enhance the capacity of the system for self-organisation. To support autopoiesis there must be unity and cooperation between individuals in the system.

e. **Towards a Future Bioregional Planning Paradigm**

As previously noted, bioregionalism is a culturally derived concept that firmly fixes humans into their landscape of immediate relevance. The spatial expressions of this bioregion are natural areas such as a biotic province, biome, ecosystem or a watershed. The bioregional community operates within institutional structures, undertaking various planning activities, entailing resource allocation and management decisions.

The three situational circumstances where cooperative approaches are being applied at the regional scale, include: (1) between regional groupings of institutions demarcated along artificial boundaries; (2) between regional communities within a natural region - ie a bioregion; and (3) between regional groupings of artificially delineated institutions but within a naturally occurring bioregion spatial unit, eg a watershed. McGinnis (1999) refers to the first scenario as "regionalisation" and the second as "bioregionalism". He notes that the third scenario, the subject of this thesis, has not been fully considered to date. He concludes that a bioregional

approach calls for the reconciliation of a fundamental border redefinition conflict that involves three dimensions, namely:

1. *Spatial*: the reconciliation of conflicting political and economic boundaries created by top-down, highly centralised markets and bureaucracies through the fostering of bioregionally oriented relationships;
2. *Functional*: attempting to gain the benefits of culturally and ecologically diverse bioregions, through a move away from acting as functionaries of bureaucratically closed and maladaptive institutions, and through maximising the positive attributes of these natural systems, particular their adaptive and open nature; and
3. *Temporal*: the successful transition to a bioregional approach through the adoption of longer timeframes than currently in use, (ie beyond the short-term political and economic cycles).

Brunckhorst (2000) has strongly advocated for a bioregional management approach based upon the two principal concepts of an integrated approach and adaptive management. He argues for an action-oriented approach to learning-by-doing to engage bottom-up, top-down and 'sideways-in' capacities, in order to allow time for learning and adjustment that can bring about the required social and institutional change. Similar optimism comes from Campbell (1996: 307) who sees bioregionalism as "a comprehensive vision of sustainable land-use" whilst noting its utopian and ecological deterministic shortcomings.

However, emerging from the contemporary literature is speculation as to a role for bioregionalism in future planning and management. A principal concern of a number of bioregionalist is summed up by McGinnis thus, "to 'get our living together' within the context of globalism is no simple endeavour. There is the fear that given the power of globalism, bioregional values will be appropriated by the state" (McGinnis, 1999: 69).

Klyza (1999) considers that bioregionalism, like other theories calling for significant changes in the design of modern societies and their institutions, is too abstract, and that at this stage in its rediscovery, what is required are "on-the-ground" case studies to demonstrate the theory being put into practice. Hence, the Logan-Albert case study, the focus of the research for this thesis, seeks to make such a contribution.

If there is to be no significant revolutionary nor immediate change in governance, in terms of resource and environmental planning and management of our landscapes, the principal and immediate challenge becomes one of identifying opportunities for incorporating changes consistent with the philosophy and concepts of bioregionalism into mainstream planning and management practices. Klyza (1999: 94) considers that these opportunities will present themselves in a post-industrial era, as communities go through a process of reinhabiting their

landscapes in what he calls "unplanned but providential rewilding". He notes however, that communities and bioregions themselves do not exist in isolation, and as the bioregional movement moves forward, it must fully engage the issues of globalisation.

Klyza (1999: 95) concludes, "government initiatives for regionalization and water-shed based ecosystem management must be supported by a cultural sensibility and respect for the landscape and place. Changing political institutions and economic systems will be very difficult, especially since these institutions and systems are moving in a direction of increased globalism. Leadership must come from below, since state and national governments are often threatened by the mere thought of bioregionalism".

Extending the concept of bioregionalism to bioregional restoration, McGinnis et al argue that the central advantage relates to community building, specifically, the recovery and the reconstitution of the human community. They define the practice of bioregional restoration as "a performative, community-based activity based on social learning and cooperation" (McGinnis et al, 1999: 211). Specifically, they see the key role of bioregional restoration being the building of a human community through the ecological restoration of historically degraded ecological processes resulting from human practices, as well as accounting for the artificial boundaries that separate the inhabitants from their local habitats. To this end, they acknowledge the extreme importance of adopting a human perceptible and relevant scale at which these community building, ecological restoration activities occur, and in this regard, they promote the watershed (McGinnis, 1999).

A likely scenario will be the initial play-out of the two diametrically opposed views articulated by McGinnis (1999) above, namely, the 'top-down institutionalised reform and the 'bottom up' grass roots approach. This hopefully will be followed by the drawing together and gradual coalescing of these different views into a comprehensive whole in the future.

As for the specifics of a potential future bioregional approach, Brunckhorst (2000) advocates a bioregional planning framework based on three basic elements, viz:

1. the identification of information needs and definition of a number of flexible, hierarchical management units. (to include multi-attribute biophysical regions and watersheds etc, plus the involvement of all stakeholders from land management agencies, resource users, local government and key community representatives);
2. an exploration of the local peoples perception of their place and their relationship with the biophysical attributes; and
3. a participatory process to examine the implications of outcomes from the above two elements.

Brunckhorst (2000) concludes by acknowledging the need for true community participation through the assignment of "real responsibility", together with the clear agreement and application of the rules for sustainability within the functional capacity of the bioregion. He also advocates for an enforcement capacity but does not detail the specific of this element. His main thrust however is for the adoption of an adaptive management approach involving regular and ongoing monitoring of all major components of change in the bioregion, supported by functional feedback mechanisms.

5.3.3 Environmental Planning

The term "environmental planning" has been in the contemporary literature for some time now. The review of past environmental planning and management practices in Chapter 3 raised the question of what has happened to the early calls for an environmental planning approach by Howson (1972); Costin and Frith (1971) and others, especially in the Australian context.

Environmental planning in the context of this study is taken as including both the formal (statutory) land and resource management process and the generic activity involving the strategic assignment of resources in order to achieve future desired outcomes (Selman, 1999). Environment is used in the broadest sense to encompass the biophysical, social, economic, political and cultural dimensions, (Selman, 2000). Selman (1999: 148) notes, "although its emphasis is on the 'environment' rather than the broader concept of 'sustainable development', it inevitably encroaches on the latter as the two are now seamlessly connected". The ultimate role of environmental planning is to achieve a "sustainability transition" (Selman, 2000).

a. Genesis of Environmental Planning

Selman (1999), notes that the historical origins of contemporary environmental planning in the UK can be traced back to the 1930s and 1940s concepts of "amenity" which also embraced earlier town planning notions of "beauty, health and convenience". Allied to these concepts was the post 1947 British goal of "containment" which sought to address issues such as protection of rural resources, establishing balanced urban communities and preventing urban sprawl.

Planning theorists such as Faludi (1987) had long argued that environmental planning reached beyond traditional land use planning, claiming that the latter was characterised by a focus on statutory schemes and a lack of comprehensiveness, particularly in regard to the performance standards of human activities. Acknowledging the prime role of the local authority in environmental intervention along with many other agencies, he also notes that environmental planning has a keen focus on the interrelations between public environmental measures. Faludi considered that the object of environmental planning had three essential dimensions, all

inextricably linked, including: (1) spatial relations and where human cooperation implies movement in space; (2) temporal; and (3) interactive.

Faludi further argued that a theory of environmental planning includes an awareness of the decision-making in planning together with an understanding of the externalities, inequities and opportunities arising from public environmental measures. He also acknowledged the need for "flexible planning which is adapted to rapid change" (Faludi, 1987: 142).

By contrast, environmental planning in the USA largely had its genesis through the landscape planning field (see Section 5.3.1). Luccarelli, (1995) however, argues that Mumford in his writings between the 1920s and the 1960s, demonstrated that he was clearly ahead of his times and that his visionary political and ecological ideas still provides relevant guidance for regional development and environmental planning today.

Evans (1997) notes that in the UK from the 1970/80s onwards it became increasingly obvious that planning lacked the powers, expertise, and theoretical knowledge to address the emergent environmental problems. This led to a call for a new approach, titled "environmental planning", which would recognise the non-compartmentalisation nature of the environment and transcend traditional departmental and professional boundaries. In pursuit of a new long-term goal of environmental sustainability, it also acknowledged that land-use policy was but one element of environmental planning. Evans advocates for a move away from "land use planning" (regulation) towards "land use policy" (wider policy instruments), where the issues of land use is located firmly within the process of environmental planning at all scales.

Interestingly, the goal of sustainability, characterised by its ill-defined, long-term and all-embracing nature, is vastly different in principle from the previous transitional, specific and measurable goals of traditional planning endeavour. These matters have been canvassed in previous discussion on sustainable development (see Section 5.2). This situation has led Evans to conclude that sustainability is essentially a political, rather than a technical or scientific construct.

Selman (1999), conveniently summarises the evolution of environmental planning during the last thirty odd years as it has moved towards the sustainability transition. His summary is contained in the following table.

Table 5.1: Evolution of Environmental Planning towards Sustainability

	1970s+	1980s+	1990s+
Level of integration	fragmented/ reductionists	integrative	holistic
Role of expertise	top-down	consultative	mixed-mode (merging top-down and bottom-up)
Importance of nature	cosmetic site treatment	striking a 'balance' between development and conservation	respecting limits imposed by life-support systems
Eco-philosophy	technocentrism	ecological modernisation	sustainability planning
Level of systems control	controlling nature	accommodating nature	managing risk
Characteristic techniques	Based on mapping and limited problem conceptualisation	Based on environmental assessment and optimisation of trade- offs	Based on responsive and inclusive management of ill-defined problems

(After: Selman, 1999: 168)

Alexander (1992: 96) identified environmental and resource planning as the "major arena of planning activity in the 1970's, when the natural environment became the focus of social concern". To Alexander, environmental planning rests on a theoretical foundation of ecological concepts that are also the substructure of the "ecological planning" model, (see previous discussion at Section 5.3.1b). It bears the same generic planning processes as other forms of sectoral planning. It also involves a multi-disciplinary approach covering a wide range of concerns, including land use considerations such as identifying environmentally unique or critical areas.

Of this era of "ecological planning discovery", Le Gates and Stout (1996: 133) comment, "since publication of *Design with Nature*, an entire field of environmental impact analysis and planning has developed physical city and regional planning of all kinds incorporate environmental values to a much greater extent than before (*however*) environmental planning promises to remain a battleground in the twenty-first century".

b. Contemporary Environmental Planning Approaches

Contemporary and emergent environmental planning endeavours focus on a number of sustainability issues which can generally be swept up under the "quality-of-life" banner and the goal of livability (Blowers, 1997; Selman, 1999). The maturing discussion on the scope of environmental planning has demonstrated that ecological issues cannot be considered in isolation, but instead, are inextricably linked to issues of natural resources, social justice, economic sustainability and quality of life (McDonald, 1996; Mazmanian and Kraft, 1999; Selman, 2000). In this regard Selman (1999) broadly categorises the range of environmental planning activities as encompassing:

- 1. Planning socio-economic systems:** embracing the concepts of flexible urban forms and structures for maximised lifespan and energy efficiency; high quality living space, construction methods and materials that minimise waste, undue obsolescence and embodied energy, and energy efficient systems and services. Selman cites the Multi-Function Polis (MFP), previously described in Section 1.4.3a, as a classical example of the "ecological modernisation" process.
- 2. Planning life-support systems:** relating to air, water and biotic resources, and, indirectly to scenic landscapes for their aesthetic and recreational qualities. This particular focus emphasises the key environmental issues of 'biodiversity'.
- 3. Social learning:** embracing active citizenship and participatory democracy, this approach advocates a less adversarial, more participatory approach with the community participating throughout the entire planning process including its important decision-making aspects. Whilst a more tortuous process with less predictable outcomes, this inclusive process should lead to more stable decisions liable to long-term success. It also included the utilisation of enhanced skills and opinions gained through the community engagement process, largely through reflection and learning. This continual review process should lead to a process of enhanced problem definition that may or may not lead to enhanced policy development.
- 4. Environmental modernisation and the sustainability transition:** the key to this initiative of 'integration' is represented by a series of paradigm shifts in such areas as green taxes, green plans, environmental assessment and the creation of multi-purpose environmental agencies. One view of integration is that it involves coordination over a range of human activities in order to reconcile and implement the broadest spectrum of objectives. Whether true integration is ever achieved is a function of the degree of adaptation of the stakeholders to new and changing information. The strategic response to integration in environmental planning can be gauged by the uptake of integrated (non-statutory) planning approaches such as Integrated Catchment Management (ICM) Plans (see Section 3.3.5c) and LA 21 strategies. (see Section 3.3.5b)

Selman (1999: 154) goes on to note that whilst the spectrum of environmental concern and management is extremely broad based, he considers that the "ecologically modernising planning profession has tended to find its approach to environmental stewardship located slightly to the 'technocentric' side of the mid point". He identifies four broad spectra to describe environmental planning's contemporary theory and practice, including:

1. a continuum of degrees of compulsion ranging from land purchase through 'command-and-control' approaches to advice and exhortation;
2. the inclusion of local opinion and expertise - from a system of elected official to a range of public participation opportunities;
3. the production of technical knowledge - to conceptualise and solve environmental problems; and
4. moves towards integrated environmental governance - commonly through the creation of multi-disciplinary partnerships.

Noting that considerable controversy surrounds all of these issues, Selman sees the highly heterogeneous nature of environmental planning practice resulting in the range of different interpretations of its character. These range from conservative modifications of staple planning paradigms through to more ambitious approaches seeking low impact developments promoting ecological attributes. He considers that the dated "expert-led blue-print rationale" underlying physical conception of environmental planning are now giving way to "a more ecologically-grounded, integrated, adaptive and transactive approach, placing increasing emphasis on assessment, implementation and monitoring" Selman (1999: 150).

Selman's contention has in fact been largely tested earlier by Briassoulis (1989). In terms of environmental planning practice in the USA, she has compared the applicability of six alternative planning approaches, namely: comprehensive/rational; incremental; adaptive; contingency; advocacy, and participatory/consensual. She evaluates the appropriateness of each approach based on her proposition that their adoption is largely influenced by the characteristics of the environmental problem, the nature of the decision-making context, and the intellectual traditions of the disciplines involved. The detailed factors that are seen to influence the adoption of a particular environmental planning approach are summarised in Table 5.2.

Table 5.2: Environmental Planning Approaches and their Determinants

Advocacy	Dimensions	Values	Planning Approach					
			Comprehensive	Incremental	Adaptive	Contingency	Participatory	
1. Characteristics of environmental problem	1.1 Origin of problem	Human	Y	Y	Y	Y	Y	
		Nature	Y	Y	Y	Y	?	
	1.2 Spatial Dimensions	Local	?	Y	Y	Y	Y	
		Regional	Y	Y	Y	Y	Y	
		Global	Y		?		?	
	1.3 Temporal dimensions	Short term		Y		Y	?	
		Long term	Y		Y	Y	Y	
	1.4 Risk/uncertainty associated with solution	Low	Y	?			?	
		High		Y	Y	Y	Y	
	2.1 Nature of decisions to be made	Broad scope, high costs, long time horizon, disagreement		Y	Y	Y	Y	Y
		Narrow scope, low costs, short time horizon, agreement		Y				
	2.2 Traditional mode and structure of public decision and policy making	Integrated demand, centralised decision making		Y		Y	?	?
		Fragmented demand, decentralised decision making			Y	Y	Y	Y
	2.3 Distribution of power and authority	Concentrated		Y		?	?	
	Fragmented			Y	?	?	Y	
2.4 Legal/institutional structure	Exists		Y	?	Y	Y	Y	
	Does not exist			Y	?	Y	?	
2.5 Generated forces behind issues	Strong		Y		Y	?	Y	
	Weak			Y	?	Y		
3. Intellectual traditions of contributing discipline	3.1 Ecology		Y		Y			
	3.2 Economics		Y	Y		Y		
	3.3 Engineering			Y		Y		
	3.4 Land use/regional planning		Y	Y	Y	?	Y	
	3.5 Political science		Y	Y	Y		Y	
Evaluation of Approaches								
1. Environmental soundness		Yes	Y		Y	?	?	
		No		Y		?	?	
2. Political realism		Yes	?	Y	?	?	?	
		No	?		?	?	?	

After: Briassoulis, 1989

Notes: Y = determinant of planning approach acknowledged; ? = not possible to answer with certainty; blank = not relevant

Briassoulis' conclusions in terms of the environmental soundness and political realism of the six alternative planning approaches are summed up at Table 5.2. She notes that in reality, it is often a hybrid of these pure approaches that is employed. To this end she has observed that the comprehensive approach is frequently found in combination with other approaches. She comments "support for the comprehensive approach has come not only from ecologists and biologists, but also from economists, regional planners, and political scientists who believe that effective solutions to environmental problems require holistic analysis, systematic generation of solutions, objective choice processes, and coordination among the relevant institutions and administrative bodies" (Briassoulis, 1989: 384). In this latter regard however, she has concluded that on its own, the comprehensive approach does not readily facilitate interjurisdictional cooperation due to a lack of appropriate institutional mechanisms and the pressure politics exerted by numerous stakeholders. The missing element is citizen participation in the planning process.

The results contained in Table 5.2 provide strong support for the applicability of the adaptive planning approach. With advocacy from ecologists, political scientists and land use planners, this approach seeks to provide opportunities for stakeholders involved in the planning process to learn from experience, to foster social responsibility in regard to ownership and implementation actions, and to provide a means to adapt broader based policy to local scale circumstances (Briassoulis, 1989). The adaptive planning and management approach is discussed in further detail in Section 6.5.

Briassoulis' determinants and their various characteristics provide a useful methodology with which to compare and evaluate the Logan-Albert case study (see Section 9.2.1d).

Gleeson and Low (2000: 152) believe that "whereas environmental planning has been widely accepted as the dominant paradigm of planning in Europe, it has far to go in Australia, although there are signs that some of its concept are gradually being absorbed". The response to environmental management issues within the traditional statutory and generic planning fields in the Australian context has been previously reviewed and discussed in details in Sections 3.3.3b and c. That review supported the conclusion that mainstream physical land use planning remained separate from the environmental movement for many years in Australia, especially in an institutional sense (Day, 1988; McDonald, 1996; Conacher and Conacher, 2000). Day has also noted in particular the slowness in Queensland at attempts to integrate environmental management considerations with statutory planning.

Conacher and Conacher (2000), in tracing the progression of environmental planning and management in Australia, have identified the following eras of evolutionary development:

1960s-1980s	Resource and environmental protection
1970s-1980s	Environmental Protection Acts and EIA
1980s-1990s	Integrated natural resource management
1990s-	Integrated land use, environment and natural resource planning and management

They acknowledge that the current era is characterised by: the integration of national, state, regional and local plans, policies and roles; comprehensive and strategic planning and policies incorporating natural resource management, land use planning and environmental management; integrated regional planning; national and state planning strategies; and increased local government responsibilities in planning and environmental management. Post 2000, they suggest the qualified advent of bioregional planning.

c. An Emergent Framework for Environmental Planning

The principles that underlie this emergent environmental planning framework have been assembled from the literature. Essentially they include the substantive philosophical principals embedded into the theory as well as the procedural principals that relate to the dimensions of the framework as it has been developed and applied in practice. The former have been dealt with in the preceding discussion (see also Selman, 1996; McDonald, 1996; Blowers in Blowers and Evans, 1997; Selman in Kenny and Meadowcroft, 1999; Selman 2000). The procedural principles related to planning practice are of particular interest to this study as they can provide an additional basis upon which to interpret and evaluate the Logan-Albert case study. These emergent procedural principles include:

1. **A Holistic and Integrated Approach:** Society's increasing demands for achieving sustainable outcomes, together with the interwoven and holistic nature of contemporary environmental problems, require a holistic planning response. This call comes particularly from the broad range of environmental professions and acknowledges the need to integrate across the broad-based spectrum of environmental, biophysical, socio-economic, cultural and political elements in order to work towards the desired environmental planning and management outcomes, (Dorney, 1987; Armour, 1989; Kozlowski, 1990; Niebanck, 1993; Slocombe, 1993a&b; Evans, 1994; Armitage, 1995; Selman, 1996; McDonald, 1996; Hancock, 1996; Blower and Evans, 1997; Schnurr and Holtz, 1998; Margerum, 1999a,b,c,d; Hooper, McDonald and Mitchell, 1999; Mazmanian and Kraft, 1999; Selman, 2000). The integrated approaches proposed will need to cross traditional boundaries – geographical, institutional and administrative. However such a course will run headlong into long standing and strongly entrenched conventions, leading Evans and Rydin (1997: 62) to note, "it remains very difficult to

break down organisational and occupational barriers to integration". They make a useful point of distinction when they acknowledge that land use planning has a clear role to play within an integrated environmental policy whilst noting that it cannot stand or substitute for that policy.

In terms of policy integration, and notwithstanding that there are varying degrees of integration, Schnurr (1998) considers that an appropriate strategy is to first nominate the level that integration is to occur. Subsequently, the approach should then follow an ecosystem perspective with the fluvial or watershed region or bioregion as examples. Schnurr (1998: 4) argues that "policy integration requires coordination and collaboration in designing, planning, and implementing, to establish clear objectives and divisions of responsibilities (*with*) more advanced degrees of integration require(*ing*) more sophisticated forms of communication, decision-making, and organisational behaviour". He also identifies 'strategic environmental planning' as one of a number of tools available to foster deeper forms of integration.

In order to integrate environmental concerns into the planning process and to provide a balanced appreciation of development proposals, Armour (1989) relies on three forms of integration, namely:

- technical or disciplinary integration the bringing together of separate disciplines into a unified analytical framework;
- consultative integration - the bringing together of competing interests into a unified socio-political process; and
- organisational integration the bringing together of public and private implementing agencies into a unified management arrangement.

The emergence of environmental planning and natural resource management as specialised fields has gone some way towards this move for greater integration. However, rather than integrate ecology and planning, they have tended to take away responsibility for ecological/biophysical elements from mainstream planning, which still emphasises economic development, infrastructure development, and land use planning and-the-like, (McDonald 1996; Slocombe 1993a; Wiggins in Freestone, 1993).

There are some examples of integrative planning models being used in practice. Practitioners such as McHarg (1969) attempted to bridge the gap between ecology and the spatial design professions (see Section 5.3.1). More recently, a range of models such as ecosystem approaches, holistic resource management, and integrated watershed management represent attempts at integrating ecological, socio-economic and

institutional elements (Armitage, 1995). Post Rio 1992, the Agenda 21 initiative has promoted the application of 'landscape ecological planning' as a means of achieving the desired integration of planning activities (Selman, 1996). Integrated planning and management through application to natural areas such as catchments and bioregions have previously been discussed in detail, (see Sections 3.3.5c, 3.3.6a and Section 5.3.2). However in practice, there is still little evidence that such integrated, holistic planning is occurring and where it is, it is usually poorly developed (Lawrence, 1992; Slocombe 1993b; AACM International, 1995; Selman, 1996; Selman, 2000).

Moves towards more integrated approaches in practice have potentially major implications for planning education, largely because to date, environmental planning and management has been taught as a separate, speciality field (McDonald, 1996; Martin and Beatley, 1993; Evans and Rydin, 1997). This issue is discussed in Section 9.3.2b.

2. **A Cooperative Approach to community involvement:** Evans and Rydin (1997) have noted that the sustainability focus has resulted in a far wider range of stakeholders now identifying with the themes of planning interest. In order to provide greater opportunities for stakeholder participation and to accommodate their concerns within the planning process, a cooperative approach will be required (Margerum and Born, 1995; Margerum, 1999a,b,c,d; Hooper, McDonald and Mitchell, 1999; Mazmanian and Kraft, 1999). It is now recognised that in these instances, planning will occur in a different political environment, with the professional planners required to maintain an outwards perspective and focus (Selman, 1996; Evans and Rydin, 1997).

Evans and Rydin provide additional support to the notion of the changing role of planners to one of facilitation. They identify the requirement for expertise in argumentation, use of language and persuasion, and sensitivity to the needs of different community groups, with obvious implications for planning education. To these, Forester (1996: 241) adds "when planners meet with developers or community residents, advisory boards or decision makers, they have to deal with emotion no less than reason, with passion no less than rationality". He considers that effective planners "must be able to respond to other's ideas and to their passions: their fears, suspicions, distrust, anger and so on emotional work that planners are poorly trained to do" (Forester, 1996: 256). He goes on to argue that if planners attempt to ignore these issues of passion by remaining 'objective', 'detached', 'neutral' or 'professional', they will fail as planners.

3. **The Political Dimension:** Evans and Rydin note that as planners pick up the functions of mediation they are drawn into the political sphere. They argue that planners involvement in this communicative and argumentation model places them squarely within, and engaged with, different groups of vested interests and that they then become just one of a number of groups from civil society. In this regard they caution against the inherent problems and potential failures as planning becomes "effectively dissolved into the political arena (*where*) environmental planning becomes explicitly and entirely a political process of talking, hearing and arguing (*where*) planning is not about decision-making but evolving consensus" (Evans and Rydin, 1997: 65).

This has led Evans and Rydin to question the relationship between communicative planning and any associated authority to bring about change that may or may not be vested in these plans. Healey on the other hand has the view that development plans are "used to express and take control of the agendas with respect to the management of environmental change in localities by different groups" (Healey, 1995: 256). Evans and Rydin (1997) have expressed concerns related to future communicative plans for sustainability encountering similar tensions.

4. **The Professional Dimension:** The role and past response of the planning profession to environmental management have previously been considered (see Section 3.3.4d) along with the response from allied professional areas (see Section 3.3.5). Evans and Rydin have raised the concern of the past practices of professionals who through their control of knowledge and expertise have disempowered and alienated the non-professionals and who have not secured the desired societal goals that they were charged with pursuing. Quoting Chambers, they see "normal professionalism as representing a set of knowledges, values and power relationships that conspire to deliver inappropriate and ineffective short-term policy solutions" (Evans and Rydin, 1997: 66). Thus the response is an argument for greater empowerment of civil society, the encouragement of local involvement and local initiatives, and the incorporation of citizen science into the planning process, especially local and indigenous knowledge (Evans and Rydin, 1997). This approach is consistent with the central philosophies of other initiatives such as Local Agenda 21 (see Section 3.3.5b).

Attempts to deprofessionalise planning and restructure planning practice invites caution from Evans and Rydin (1997). They consider that such attempts could lead to its loss of professional status if its state sponsors are given cause to question its usefulness and legitimacy. They fear that the emergent professional stance involving campaigning and confrontation could invite censure.

This professional dimension is an emergent issue that goes well beyond the confines of the planning profession as it has implications for all the other 'welfare professions' as well. It also has potentially important implications for the active and participatory research approach (see Chapter 2) and the role of the planner/active researcher in cooperative and public participatory planning initiatives such as the Logan-Albert case study.

5. **A Scientific Approach:** Evans and Rydin have noted that scientific argument has gained in importance once the focus shifted to environmental sustainability. They claim "the centrality of scientific expertise to identifying the problem and suggesting policy options can hardly be overstated" (Evans and Rydin, 1997: 63). However, a number of cautions have been raised in regard to the use and reliance on science within resource and environmental planning and management fields. Westley's concerns regarding the incorporation of scientific information into planning (see Section 5.1), are supported by Blower's charges that scientific evidence is "often incomplete, uncertain, conflicting and consequently contestable" (Blower, 1997: 39). Additionally, Cortner and Moote (1999) warn that one of the pitfalls can be too great a reliance on science, particularly to the point of assuming that more, better and considered science alone will provide the solutions.

Not-with-standing these concerns, Evans and Rydin acknowledge that scientific knowledge itself is socially constructed and communicated and that beside the many uncertainties that it presents, there are also many interpretations that are made. They argue for a new form of knowledge production that is expertise generated in transdisciplinary contexts, problem-solving oriented, socially accountable and transient. To this end they see the advent of the Geographical Information System (GIS) along with environmental modelling as significant factors of influence to future regional planning practice. They conclude by acknowledging that land use planning with its spatial focus could contribute in a transdisciplinary context to environmental scientific knowledge itself (Evans and Rydin, 1997).

An opposing view comes from Turner (1998: 3) who has claimed that "environmental planning has been too scientific, too man-centred, too past-fixated and two-dimensional". He holds the view that we tend to rely too much on narrow specific scientific studies for the development of policy solutions without reviewing the wider context of the issues or problems. He argues that prescriptive plans cannot be derived from empirical studies of what exists. To do so results in plans that lack imagination

and ultimately lead to undesired outcomes. Interestingly however, Turner (1998) also sees great opportunities for GIS to enhance planning's position and future role, albeit from a geographical position as previously noted in Section 5.3.1c.

6. **A Less Regulatory Approach:** A move away from the traditional "command and control" approach has meant that far more reliance must now be placed on non statutory and voluntary commitments to achieve the outcomes of planning and management endeavours. This has the most significant implication for the implementation phase of the planning process, particularly in terms of ownership of policy implementation and responsibilities for implementation generally.

At the least regulatory end of the management action spectrum, it has been assumed that an educated and intelligent clientele will behave positively and considerately towards valuable environmental resources. This approach has relied on promotional, informative and educational strategies (Selman, 2000). As this approach involves a greater range of stakeholders, all keenly interested in policy outcomes, this only serves to further reinforces the need for a more participatory and collaborative planning approach.

7. **Bottom-up participatory approaches:** As a reaction to the failures of top-down approaches (see Section 3.3.3a) a bottom-up approach reliant on the incorporation of indigenous knowledge and preferences through local interest groups involvement in the planning process has been advocated (Selman, 2000). McDonald (1996) acknowledges that sustainable development implies a mix of top down and bottom up and at the local planning level, will lead to empowerment, participation and ownership.

Selman (1996) notes the particular importance of participatory planning. In the first instance, it provides the public with an opportunity to contribute to the planning process. In the second, and more importantly, it becomes central to the forum of debate and communication that is essential for sustainable development. An additional and no less important outcome is the ownership and acceptance of implementation responsibility (shared or total) by the community that a participatory bottom-up approach can facilitate. This is consistent with all previous procedural enhancement initiatives and with a less regulatory approach in particular.

d. Major Challenges for Environmental Planning

Kozlowski (1993) foreshadowed three possible practical problems in any attempts to derive an ecologically oriented planning approach. In the first instance practicing planners will require an unsophisticated and unconstrained input from environmental scientists into the planning process. On the other hand, the environmental scientists may not accept the budgetary and time constraints under which environmental planning occurs, especially in regard to their time requirements for baseline surveys. Secondly, professional planners may consider the approach too 'green' or academic and of little practical value, considering that sufficient consideration to ecological issues was already included in the planning process. Thirdly, in the event that the goodwill of the planners is not sufficient to bring about the required reorientation, serious consideration will need to be given to the use of relevant planning legislation to enforce this reform. McDonald concurs, commenting "the major obstacles are attitudinal and institutional, not scientific or technical" (1996: 234).

Planning education is at the core of Kozlowski's concerns and this raises issues such as the environmental philosophy that may or may not be imbedded into planning courses through to practical experience in evolving environmental planning practices. These issues are addressed subsequently in Section 9.3.2b. However, from the standpoint of this chapter, it is contended that the adoption of a cooperative planning and management approach operating within an adaptive management regime can go a long way towards overcoming some of the potential problems raised by Kozlowski (1990). These contentions underlie the discussion related to the case study in Chapters 8 and 9.

McDonald has noted that environmental problems have rarely been expressed in planning terms just as there have been too fewer cases of planning incorporating environmental dimensions into integrated urban and regional planning. He comments "there is an urgent need for reconciliation between mainstream planning and environmental planning which is happening as state (national) legislatures require that issues of sustainability and environmental assessment in plans and development approval systems be addressed locally" (McDonald, 1996: 233).

5.3.4 Collaborative (Integrated) Planning

a. Genesis of Collaborative Planning

The notion of a collaborative form of planning has increasingly emerged from the literature in recent times⁷. Healey (1997) believes that its ascendancy has been due to (or a reaction to) the 'new environmentalism', receiving a boost from recent sustainable development planning initiatives, notably LA21. Healey (1997: 195) observes that it is within the current LA21 and associated activities, with their focus on the roles for local communities, that "all kinds of experiments are developing in interactive agenda-setting and collaborative policy development".

The changing role of the citizen and the community-at-large in governance within the Post-Modernism era of the new millennium has been previously noted, (see Section 1.4). Principally, this has centred around Ellyard's (1998) new cooperative paradigm of human endeavour that he calls "Planetism" (or Spaceship culture). This current initiative including collaborative forms of planning should be seen as a natural extension of these broader global developments.

Selin and Chavez (1995) argue that collaborative forms of environmental planning and management involving the public have evolved in response to challenges to the traditional roles exercised in the past by professionals acting in the interest of the public. Margerum (1999c) has observed that the concept of collaboration has emerged from the planning literature at the same time as other similar concepts such as 'interorganisational coordination', 'consensus building', and 'communicative practice'. Further examples include 'people-based planning' or 'partnership planning' which refer to citizen-led community-development planning, particularly at local levels in the UK (Blowers and Evans, 1997). These examples incorporate the notion of the community becoming the focal stakeholder in the collaborative planning effort (eg community participatory planning).

In collaborative terms then, the community (or collective entity) can be recognised by law, common consent or organisational membership (Healey, 1997). These communities may be associations with a common interest or groupings of acknowledged stakeholders. They may or may not be territorially defined and located.

The system of governance includes the processes through which the collective affairs of a community are managed. It involves the articulation of rules of behaviour with respect to those collective affairs and to the principles for resource allocation (Healey, 1997). It also addresses the defence and the promotion of the community as well as the provision of economic and social

welfare. Whilst it can be concerned with the business of policy development and with the delivery of programs, the prime focus of this study is on the former – ie the articulation of the purpose of governance and the making of strategic decisions about directions and key actions.

The collaborative process legitimises decisions and initiatives taken on behalf of the community and represents the community in external forums - what Healey (1997: 206) calls "in the language of collective interests and values, embodied in such terms as common good or the public interest".

According to Healey (1997), collaborative planning activity is underpinned by recently emergent planning theory known as argumentative, communicative or interpretive planning theory. Whilst existing in a number of forms, its central characteristics include a recognition that: all forms of knowledge are socially constructed and that scientific knowledge and expert techniques hold no special favour from practical knowledge; the development and communication of knowledge and reasoning takes many forms (from rational systematic analysis to storytelling); individuals do not arrive at their preferences independently but learn about their views in social contexts and through interaction; people have diverse interests and expectations; power relations have the potential to oppress and dominate through resource distribution and taken-for granted assumptions and practices; public policies of co-existence seeking efficiency, effectiveness and accountability need to draw upon and spread ownership of this range of knowledge and reasoning; this approach leads away from competitive interest bargaining towards collaborative consensus building; these consensus building practices facilitate the development of organising ideas, coordinated actions, transformation of organisation and the building of culture; and planning is embedded in social relations through its day-to-day practices and it can challenge and change these relations through the approach to these practices.

A major point of significance, related to the implications of collaborative planning activity, acknowledges its contribution to the stock of social and intellectual capital of the participating community which result from its expanding networks of collaboration and trust that are built up (Ostrom, 1990; Healey, 1997). Collaborative effort assists in the development of social capital in a community as that community works together voluntarily in egalitarian organisations (Cox, 1995). Margerum (1999a & c) quoting Innes et al defines the chief output from consensus building, namely intellectual, social and political capital, as 'shared capital'. Putnam (1993) who links social capital to effective civic engagement, defines it as the features of social

⁷ The process of collaboration has previously been distinguished from similar forms of interactive management such as coordination and cooperation, all of which seek common goals using shared rules, norms, resources and structures (see Section 4.1).

organisation, such as networks, norms, and trust, that facilitate coordination and cooperation for mutual benefit.

Gunderson (1999) notes that institutions (defined as sets of rules and structures that allow people to organise for collective action), can add resilience to a system. This is achieved through processes of learning, tapping into deeper understanding and the development of trust, all contributing factors for the generation of social capital by these institutions. Cox and Caldwell (2000: 52) hold similar views when they comment "if social capital is to amount to more than just cooperative action, it must have a resilience to sustain mutuality and the capacity to resolve the conflicts and tensions associated with change".

In terms of the functions of the community in these collaborative circumstances, Taylor (quoting Gilchrist) argues that "the capacity to process and store information from a variety of sources seems to be an important feature of complex systems. It enables systems to 'learn' from experience and generally to adapt to changes in their environment" (Taylor, 2000: 1032). She further argues that communities with low levels of connectivity and low homogeneity become stagnate because they are unable to adapt.

Hancock (1996) adds yet another dimension to this topic, arguing that the sustainability debate must acknowledge the imperative for human (and community) development leading to healthy and sustainable communities as the ultimate outcome all others (eg economic sustainability) are merely means towards this end. To Hancock, human development is dependent on the successful integration of 'community conviviality', 'environmental viability', and 'economic adequacy'. This will be reliant on achieving a satisfactory state of social equity, ecological sustainability and a livable built environment.

b. Contemporary Approaches to Collaborative Planning

Selman (2000) has noted that the complexity and multidisciplinary of many environmental planning situations has resulted in collaborative approaches in practice. A similar situation was identified by Stolton and Dudley (1999) in relation to future planning and management requirements for protected and adjacent areas. Margerum and Born (2000: 5) attribute the relatively recent emphasis on integrated approaches as a response to "inadequate results from traditional single-focus approaches, increased recognition of trans-boundary environmental problems, along with greater understanding of ecosystem functioning, and the increasing emphasis on ecological integrity and sustainability". They see integration as both a process and an approach to achieving the expectations of the participating stakeholders who interact and have their actions coordinated through this collaborative arrangement.

Selman (2000: 104) notes that "a fundamental challenge in environmental planning is to resolve the tension between the forces of 'vertical integration' and 'horizontal integration' (*claiming that*) truly integrated solutions are ones which reconcile the problem-solving capacity of the latter with the clarity and focus of the former". Earlier, Briassoulis (1989: 386) had set out the challenge when she commented, "the practice of local land use planning with its emphasis on local autonomy and the application of engineering structural solutions to reduced, bounded problems, has set the precedent for similar treatment of environmental problems precluding more comprehensive, anticipatory, and cooperative approaches, and exacerbating interjurisdictional conflict".

On a broader front, beyond the intragovernmental context, Healey (1997) has examined various institutional approaches to economic, social and environmental dynamics in communities and has acknowledged that there is a shared interest between various interest groups within a community wishing to pursue their own economic, social or environmental agendas to find forms of governance that will enable communication amongst these stakeholders and their networks. She further argues that they will seek to design institutional processes that can facilitate collaboration, mutual learning and consensus building.

Taylor (2000) acknowledges that community involvement can be top down, bottom up, or a combination of both. The latter will require mediators or brokers (planners?) to work horizontally across boundaries in order to: stimulate the exchange of knowledge; make connections between potential allies; stimulate community-based audits (not just focused on community needs but also assets, resources and interests of all stakeholders); and encourage joint learning.

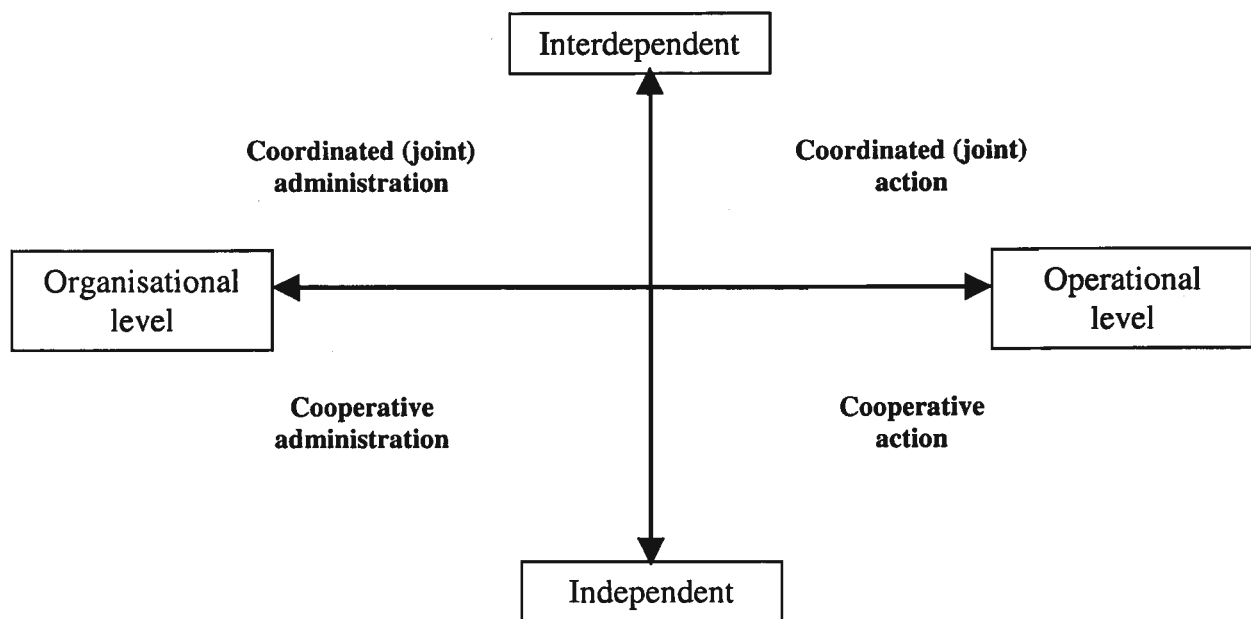
Selman (2000) notes that the main way to achieve horizontal integration beyond the context of government agencies can be through formal or informal partnerships. He also supports the role of the planner as the mediator or catalyst in collaborative environmental management, claiming that the planner often has access to relevant information, is experienced in community consultation and liaison, interacts with policy and commercial interests, and has many negotiation and liaison skills.

In terms of various forms of collaborative approaches to integrated planning and management, the literature has identified a range of approaches for which Margerum (1999a) has provided a useful typology. He identifies two basic dimensions that can be used to distinguish the workings of collaborative efforts between participating organisations, namely:

1. Levels of interaction: varying from 'organisational' (ensuring the consistency of policy and administration) to 'operational' (dealing with on-the-ground actions); and

2. Institutional level: ranging from cooperative approaches where participants agree a common goal and work 'independent' towards it, to coordinated approaches where 'interaction' is required as a continuous process of joint decision making.

Margerum combines these two dimensions to distinguish his typology of integrated implementation approaches, see Figure 5.2. This matrix identified four primary types of integrated planning and management approaches, namely, coordinated administration, coordinated operation, cooperative administration, and cooperative operation.



Source: Margerum, 1999a

Figure 5.2: Matrix of Integrated Implementation Approaches

Margerum (1999a) notes that whilst his typology of implementation approaches does not offer pure and distinct models, it does illustrate the range of approaches that are potentially available for integrated planning and management. The LARMCC case study closely approximates the "Cooperative administration" approach of this typology.

The distinguishing attributes of these four primary types of integrated planning and management approaches are summarised in Table 5.3.

Table 5.3: Attribute of Integrated (Collaborative) Planning Approaches

Attribute	Coordinated Administration	Coordinated Operation	Cooperative Administration	Cooperative Operation
Participants collective behaviour	Participants work collectively to bring things into common within their shared task environment		Participants work independently towards agreed common ends to achieve individual goals	
Principal focus of integrated activities	Harmonising of policies, rules and norms	Joint decision on resource use and regulation	Resolution of policy differences	Joint alignment of resource management actions
Achievement of integration	Joint action	Joint action	Independent action	Independent action
Policy development	Joint and Continuous	n/a	Joint but Non-continuous	Secondary
Resource allocation decisions	Not primary concern	Joint and Continuous	Not primary concern	Joint but Non-continuous
Management of specific cases	No	Yes	No	Yes
Implementation of policies/Interpretation of resource allocation decisions	Independent	Independent	Independent	Independent
Principal source of knowledge for decisions	Ongoing adaptive management interactions	Ongoing adaptive management interactions	Outputs from consensus building	Outputs from consensus building

Based on Margerum, 1999a

Margerum (1999a) has concluded that a cooperative approach is more a contractual model where participants identify an agreed goal or objective and then work independently towards it. The contract can be in the form of a policy, plan or some form of contract (binding or non-binding). By contrast, the coordinated approach is based on the co-management model where interaction is a continuous process of joint decision making.

On a more pragmatic note, Selin and Chavez (1995) see collaboration occurring within a process model that is initiated by antecedents which could include environmental forces such as a crisis, intervention by a third party or broker, a legal mandate, a common vision or understanding amongst stakeholders, an established network, strong leadership championing a cause, and incentives to potential partners. The remaining sequential phases of their collaboration model includes a problem setting phase, a direction setting phase, followed by a structuring phase with outcomes and the cyclic provision for feedback to complete the collaborative process.

A three-phased model of collaboration has previously been introduced - see Section 4.1.4 (Gray, 1989). Margerum (1999c) has reviewed this and a number of other contemporary forms of

collaborative planning. These are summarised in Table 5.4. The comparison between these alternative models acknowledges the three central phases of collaborative activity, namely:

1. Problem-setting Phase: the bringing together of potential stakeholders, obtaining the commitment, and the development of the infrastructure to facilitate the collaboration;
2. Direction-setting Phase: involving the identification of problems, exchange of information, conflict resolution, agreement on common goals, reaching consensus, and the identification of implementation actions; and
3. Implementation Phase: specification of actions, roles and tasks by stakeholders, design of implementation approach, implementation actions and monitoring and measuring of outcomes.

Interestingly, Borrinni-Feyerbend has derived a similar set of criteria for partnerships centred on the collaborative management of protected (public) areas. Her model acknowledges three phases: (1) Preparing for the partnership; (2) Developing the agreement; and (3) Implementing and reviewing the agreement (learning by doing). She sums up the collaborative management experience by commenting, "professionals dealing with collaborative management processes often have the exciting and unsettling feeling of watching a phenomenon touching upon the most significant aspects of life - democracy, equity, development and cultural survival - alongside the specific concerns of conservation and sound management of resources" (Borrinni-Feyerbend, 1999: 231/322).

Table 5.4: Comparison of Collaborative Planning Models

Phase	Susskind and Cruikshank (1987)	Gray (1989)	Julian (1995)	Selin and Chavez (1995)
Planning: Problem-Setting	<ol style="list-style-type: none"> 1. Get process started 2. Identify and select representatives 3. Draft protocols 4. Set agenda 5. Conduct joint fact finding 	<ol style="list-style-type: none"> 1. Develop common definition of problem 2. Commit to collaboration 3. Identify stakeholders 4. Establish legitimacy of stakeholders 5. Establish a convener 6. Identify resources 	<ol style="list-style-type: none"> 1. Identify focal organisation 2. Identify collaborative planning group 3. Secure financial resources 4. Appoint a facilitator 5. Specify problem/issues 6. Assess capacity and identify stakeholders 	<ol style="list-style-type: none"> 1. Recognise interdependence 2. Identify stakeholders 3. Reach consensus on legitimate stakeholders 4. Identify common problems 5. Identify perceived benefits and salience to stakeholders
Planning: Direction-Setting	<ol style="list-style-type: none"> 1. Invent options for mutual gain 2. Package agreements 3. Produce a written agreement 4. Bind parties to their commitment 5. Ratify agreement 	<ol style="list-style-type: none"> 1. Establish ground rules 2. Set agenda 3. Organise subgroups 4. Conduct joint information search 5. Explore options 6. Reach agreement and close the deal 	<ol style="list-style-type: none"> 1. Establish neighbourhood collaboration process 2. Define system goals 3. Document process 4. Specify outcomes 5. Define intervention model 	<ol style="list-style-type: none"> 1. Establish goals 2. Set ground rules 3. Conduct joint information search 4. Explore options 5. Organise subgroups
Implementation	<ol style="list-style-type: none"> 1. Link informal agreements to formal decision making 2. Monitor 3. Create context for renegotiation 	<ol style="list-style-type: none"> 1. Deal with constituencies 2. Build external support 3. Structure implementation 4. Implement 5. Monitor the agreement and ensure compliance 	<ol style="list-style-type: none"> 1. Specify organisational agreements 2. Implement activities and programs 3. Measure outcomes 	<ol style="list-style-type: none"> 1. Formalise relationships 2. Assign roles 3. Elaborate tasks 4. Design monitoring and control systems

Source: Margerum, 1999c

Underlying this discussion is the assumption that an integrated approach will automatically deliver through collaboration the desired planning and management outcomes being sought.⁸ However, reviews of collaborative planning activities have identified the lack of attention to the implementation phase as a significant weakness of collaborative as well as generic planning (Gray, 1989; Born and Sonzogni, 1995; Selin and Chavez, 1995; Margerum and Born, 1995; Margerum, 1999c; Hooper, McDonald and Mitchell, 1999; Dovers, 2000). Of the implementation phase itself, a number of factors have been recognised as constraining its successful undertaking, including:

- poor communications (Margerum, 1999c,d)
- problems with resolving conflicts (Margerum, 1999c,d)
- personality difficulties (Margerum, 1999c)
- extremely difficult problems (Margerum, 1999c)
- long histories of antagonism (Margerum, 1999c)
- inadequate funding to support implementation (Margerum, 1999c,d)
- structural factors (ie disparity of power and resources amongst stakeholders) (Margerum, 1999c quoting Bingham 1986; Amy, 1987)
- use of alternative forums to address issues, eg courts or legislatures (Margerum, 1999c quoting Amy, 1987; Gray, 1989; Selin and Chavez, 1995)
- lack of strategic direction (Margerum, 1999c,d)
- lack of community involvement during implementation (Margerum, 1999c,d)
- lack of stakeholder commitment to implementation (Margerum, 1999a,c,d)
- highly specified laws and policies constraining (agency) participants (Born and Sonzogni, 1995; Margerum, 1999a,d)

Hooper, McDonald and Mitchell (1999) provide additional insight into understanding these motives for cooperation from an integrated resource environmental management (IREM) perspective. They challenge the often-held notion that improved IREM will naturally flow from a more systemic, long-term, coordinated and integrated approach. Their concern relates to why a more coordinated and integrated approach to resource and environmental management had not developed even when regional organisations are created or lead agencies appointed. They identified a number of recurring themes that also provide additional support for the principal contentions of this study, namely: the need for cooperation; the applicability of the ecosystem approach and the relevance of the regional scale for integrated resource and environmental management.

⁸ The theoretical motives for cooperation have previously been canvassed (see Section 4.1.2).

They identified and examined a range of likely factors that could hinder the effective implementation of an integrated and coordinated approach to resource and environmental management, including: potential participants not convinced of the need for an integrated approach; lack of leadership (including replacements) and clear responsibilities for integration initiatives; lack of respect, trust, goodwill and a willingness to voluntarily participate; lack of support and resources for community based groups; lack of a clear, worthwhile and responsible role for community based groups; failure to recognise the specific and unique aspects of each separate place - the context; a preoccupation with short-term solutions; difficulties in achieving harmonious horizontal and vertical coordination with acceptable power sharing arrangements; bureaucratic resistance from traditional resource managers; lack of integration of, and access to, information; ill-defined links with mainstream local and regional planning activities; underdeveloped role for local and regional planning in IREM; lack of economic analysis (including the determination of property rights) to identify priorities and to allocate costs and benefits between public and private sectors for IREM; and conflicting interests amongst many participants in the IREM debate and a lack of capacity to deal with conflict resolution, particularly in a non-adversarial manner.

Hooper et al (1999) concluded that IREM could be improved through greater attention to:

1. *Demonstrating the need, scope and content for an integrated approach* - involving the persuasion of participants of the seriousness of the problem; that the extra effort involved in integration will be worthwhile; that the cost of integration will be justified by the returns; and to allay any fears of threats to existing agencies and potential participants.
2. *Embracing best management practices (BMP)* - including the clear definition of the elements of BMP; using a scale for practice that is appropriate to the decision system; adopting a 'family business' perspective which incorporates other non-business values; overcoming the incongruence between various participants through the establishment of congruent agreed management objectives for all participants to work towards together; the adoption of a team or task force approach drawing on all available expertise; and through new arrangements for greater accountability of the IREM process.
3. *Improving information accessibility and integration* including for example, the use of adaptive environmental assessment and management, multi-objective decision support systems, modelling tools and GIS, individually or in combination. This issue also acknowledges the need to improve the participant's, especially the community's, access to information.
4. *Addressing equitable financial arrangements* - this could involve the establishment of a 'property rights regime' in order to implement a voluntary non-regulatory approach to IREM, thus acknowledging that the responsibilities for financing IREM need to be

distributed amongst all participants, both private and public sectors. This approach could then engage and target those with direct responsibility for the management of the resource.

5. *Strengthening local and regional planning capacity* - with the aim of incorporating the principles of IREM into mainstream planning and secondly, to move IREM into the heart of the core business of government. Quoting Richardson, they acknowledge that "sustainable development is not achievable in any real way without attention to the substance and process of planning which fundamentally seeks to integrate social, economic and environmental criteria in planning and approving development" (Hooper, McDonald and Mitchell, 1999: 762).

Hooper, McDonald and Mitchell's five priority recommendations to overcome institutional and implementation barriers for IREM provide a useful strategy to address the development of emergent framework for collaborative planning.

c. An Emergent Framework for Collaborative Planning

A broad socio-political framework and context for ongoing collaborative planning is provided by Healey (1997). In essence, she contends that emergent forms of collaborative planning operate as a style that challenge our traditional notions of government. In the first instance it challenges the notion that the formal institution of government is the only means of governance, and second, it challenges the role of government as primarily the provider of economic and social welfare and as the protector of the environment.

Healey (1997) advocates that collaborative planning approaches need to embrace procedural principles that include: a full inclusionary process that recognises issues and stakes - particularly for collaborating and consensus building; acceptance and acknowledging the importance of local knowledge (and indigenous knowledge); recognising the future role of government as the provider of hard infrastructure as well as soft infrastructure where the latter through relation-building can contribute to consensus building, and mutual learning leading to the development of social, intellectual and political capital; a system of governance that is open and accountable; and a more equitable form of power sharing.

On the question of knowledge, she argues that in this style of governance, it involves more than the simple transfer into actions, embracing as it does knowledgeable reasoning and argumentation. Thus communications is an absolute essential requirement in this process.

Healey examines four basic models of existing western governance systems, namely, representative democracy, pluralist democracy, corporatism, and clientelism. She concludes that planning, as a policy-driven, coordinative, knowledge-rich and future orientated approach

to governance is best served by the representative democracy and corporatism models. On the negative side however, Healey (1997: 231) notes that these models also neglect some "contemporary tendencies for more open relations between government, economic activity and social life, for more horizontal or networked governance linkages, and for a spreading of power relations of governance to encompass more of the diverse interests in our societies". It was previously noted that these issues were also confirmed by Hooper et al (1999) as constraints to effective IREM.

Healey also explored three contemporary evolving trends of governance, namely: the criteria-driven approach; entrepreneurial consensus; and inclusionary argumentation (a participatory approach). She notes that whilst all three are policy-driven, knowledge-rich, future orientated, and probably use a planning process, they differ in their approach to the use of knowledge, to the involvement of the community, and in their forms of reasoning. Whilst all three are based on formal democratic forms of governance, they all contain insufficient legitimate relations between government activity and economic and social life and consequently, they need to seek ways to open up government to facilitate more interaction between government, business and citizens. The inclusionary argumentation model shows most promise as it facilitates active involvement by business and citizens and allows for the combination of hard and soft infrastructure that could improve communications in a collaborative sense. In reality the particular form and style of governance will be a combination of all three approaches.

Healey promotes a rational-like strategy-making planning approach that operates through inclusionary argumentation with a communicative ethics of interactive consensus building, to add social, intellectual and political capital to the community of the participating stakeholders as previously noted. She argues that this is achieved through the provision of better solutions to the problems of collective concern, and through the creation of trust and understanding through which knowledge can flow and thereby provide a resource for future collaboration. The positive outcomes associated with this collaborative approach include: participants are assisted to sort out their dilemmas of co-existence; formal knowledge is combined with local (indigenous) understanding and brings them into discussion; it produces policy ideas, systems of meaning and social relations that become a store of 'capital' for future use; institutional capacity to enable a proactive, developmental response are built; ideas and understandings generated help to frame the way people think about their subsequent actions; these subsequent actions can also be shaped in new ways; it leads to coordination without the need for formal coordination procedures; relationship between policy and action is a framing enabling one rather than a linear one; and ideas are framed through the coordinated transformation of knowledge and values into actions that replace the blueprints of 'command and control' planning systems and the linear ends-means of the rational process model.

On the question of a model to bring all this about, Healey (1997: 294) argues that "there are no models of how this could be done which will guarantee that the outcomes will be particular political practices this means that there are no standard answers to the specifications of the systemic institutional design of governance systems for inclusionary participatory democratic practice". Instead, she poses a number of 'probing, exploring questions' for the participants who wish to enter into collaborative activities. The key parameters encapsulated in the questions include:

1. *the nature and distribution of the rights and duties*: with the intention to encourage people to interact and to provide them with the power to demand to be involved;
2. *the control and distribution of resources*: raising questions about the source of resources, responsibilities for provision, range of requirements for resources, and access;
3. *the specification of criteria for redeeming challenges*: covering requirements for addressing claims for rights, redress and allocation of resources; and
4. *the distribution of competencies*: includes the formal organisational structure to deliver the competencies through to the machinery of the planning system in support of the system of governance.

Healey notes that some, especially those advocating for a communicative, participatory democracy, would argue that in light of the potential achievements described above, there is no longer a requirement for formal institutional arrangements. However she contends that reliance on the soft infrastructure alone is not enough and cites Ostrom (1990), who notes that how well grass-roots arrangements work, depends on external institutional factors as well on internal factors. Interestingly, the emergent global and societal changes previously discussed (see Section 1.4.1), appear to have the potential to reshape how we will operate within our future networks and thereby influence our forms of collaborative effort.

Whilst Margerum has noted that collaboration has emerged in the planning literature at the same time as Healey was advancing her theories of communicative practice, he also observed that other concepts were also coming to the fore, namely interorganisational coordination and consensus building (Margerum, 1999c). He goes so far as to suggest that perhaps collaboration is a 'repackaging' of former well-established planning concepts such as consensus building, community participation, and conflict resolution.

On a pragmatic level, Margerum (1999c: 181) notes that whilst stakeholder groups have "achieved new levels of understanding and reached consensus, built 'shared capital', they are encountering difficulties translating this capital into action". He went on to identify a number of common weaknesses of the previously outlined collaborative approaches. Margerum

(1999c) notes that particularly in the USA and Australia, there are growing applications of stakeholder-based collaborative planning endeavours in watershed management. He notes that there is usually a high degree of guidance to the largely non-government community stakeholder committees during the problem-setting phase, compared to the independence allowed during subsequent direction-setting and implementation phases.

As previously noted, the disappointing results related to the implementation phase require much more attention in evolving practices. Margerum (1999c) cites a number of different implementation approaches that he considers are available, including a common information set (CIS), a cooperative plan or policy, and joint decision making. He notes that they are not mutually exclusive but cumulative, and that they are arrived at sequentially in the order presented. The distinguishing attributes of these different collaborative implementation approaches are outlined in Table 5.5.

Table 5.5: Attributes of Different Collaborative Implementation Approaches

Implementation Approach	Collaborative Form	Weaknesses of Approach
Common Information Set (CIS) <i>Decision makers influenced by shared information</i>	Stakeholder share information, provide different perspectives and analyses, develop better understanding of system.	<ul style="list-style-type: none"> ▪ Assumes static information relevant to future ▪ Assumes collective information will infiltrate into management organisation ▪ Assumes participants can use information to adjust decision making ▪ Does not define an implementation strategy
Cooperative Plan or Policy <i>Decision makers influenced by jointly developed plan or policy</i>	Based on CIS, stakeholders identify plan or policy actions, allocate responsibilities and tasks. May include monitoring to enforce plan implementation.	<ul style="list-style-type: none"> ▪ Relevant as long as information base remains relevant ▪ Assumes that stakeholders can separate and allocate actions ▪ Ad hoc or voluntary coordination of management activities ▪ Assumes that planning process can provide sufficient details to guide decision making during implementation
Joint Decision Making <i>Decision makers influenced by each other</i>	Base on CIS and Cooperative Plan/Policy. Involves inactive decision making at array of key decision points through formal and informal contractual arrangements	<ul style="list-style-type: none"> ▪ Stakeholders cannot coordinate all decisions on a joint basis - must identify the most interdependent and important for joint action ▪ Transaction costs are higher ▪ Stakeholders must surrender some autonomy and share decision making powers

Based on Margerum, 1999c

Margerum, (1999c) notes that the joint decision making approach is the least utilised to guide implementation. In order to facilitate joint decision making for complex planning and management plans, he advances the following 'rules' for implementation:

- adopt consensus building after adoption of plans/policy - implementation will be as contentious as the planning process;
- the smooth transition from planning to implementation requires the creation of structures to oversee implementation - in this case, the process of structuring is the gradual institutionalisation of the agreement reached; and
- force the organisation to commit specific people to specific roles and procedures through the identification of key decision points and the actors who must work together at these decision points.

Other researcher who have recently focused attention on the implementation aspects including Born and Sonzogni, (1995); Selin and Chavez, (1995); Margerum and Born, (1995); and Hooper, McDonald and Mitchell, (1999). Margerum and Born (2000: 6) for example note that "issues addressed through IEM (*integrated environmental management*) tend to be complex, and coordination must be an ongoing enterprise to allow adaptation and mutual adjustment".

d. Future Challenges for Collaborative Planning

Healey (1997) considers that one of the biggest challenges will be for environmental planning (particularly at the local scale in the UK) to break free from its almost dominant focus on land use matters to embrace a broader agenda. She sees this outcome dependent on the mode of governance into which environmental planning is inserted. She believes that the development of desired approaches for collaborative planning is very much constrained by the hard infrastructure of the design of our formal policy systems and our constitution of government. On the question of planning's relevance and potential contribution to the evolving forms of governance, Healey (1997: 244) believes "the challenge for planning is to develop new practices".

On the domestic scene, Beringer, Chomiak and Russell (1986: 13) have noted that "governments agencies and statutory authorities are also having to cope with rapid social and technological change. New perspectives in Australia include increased emphasis on regional and community based planning; broader community participation in planning processes ". Taylor (2000: 1032) sees the way ahead involving "footloose and highly adaptable connections which operate across boundaries and value dynamism above stability". She advocates for a loosening up of formal governance structures and the re-engineering of existing systems to account for a redistribution of power. To her, the greatest challenge revolves around the revolutionising of career incentives, professional norms, guidelines and auditing assumptions.

Healey (1997: 242) concludes "the experience of working with a multiplicity of interests and claims for policy attention, a day-to-day experience for many local spatial and land use

planners, provides a considerable resource upon which to develop the understanding needed for inclusionary argumentation, if fully recognised and appreciated. Yet we still know little about the practices which would realise this style of governance". As Gray (1989: 11) has commented, " collaboration is an emergent process". These concepts have been applied and tested in the Logan and Albert case study (see Chapters 8 and 9).

5.3.5 Evolving Planning Paradigms

The previous sections have examined a number of key emergent planning paradigms that have evolved within different planning fields that are of direct relevance to this study's research themes. There are strong arguments that traditional forms of planning do provide utility for future landscape and environmental management requirements. However, there is also general agreement that these traditional forms will require adaptation to be capable of responding to contemporary landscape management challenges. Additionally, this review of emergent planning paradigms has also identified a number of common links and themes from associated planning fields that can cross-fertilise and inform the evolving forms of traditional planning.

A number of changes to the substantive and procedural issues governing traditional forms of planning activity that will be required has also been identified from the literature - these are discussed in further detail in Section 6.2. Interestingly, this review of emergent planning paradigms has demonstrated a significant degree of similarity of purpose and content leading to a considerable degree of convergence of theory between these different planning fields. The nature of this convergence and its relationship to other areas of convergence relevant to the other themes of the research question are explored in Chapter 6.

Consistently strong arguments have been advanced for a more integrated approach that has seen particularly robust cases made for collaborative and integrated planning and management. These calls for the establishment of a collaborative culture has seen a revisit to some form of systematic approach in order to fully appreciate all of the components and interactions of the environmental matrix. Associated with these developments has been the advancement of compelling arguments for the employment of the ecological paradigm as the basis for study, analysis, planning, policy development and overall management. In all cases the management of the landscape has emerged as a consistent theme across all allied planning fields, albeit there is the recognised need to embrace a wider environmental definition to include the non-biophysical environmental dimensions.

This review has clearly demonstrated that the next step for the planning profession centres on the embrace of principles of environmental sustainability as they apply to the nature of future planning endeavours. A number of authors have noted that a strong correlation exists between

the integrating nature of sustainable development and the purpose of planning, (Selman, 1996; Campbell, 1996; McDonald, 1996; Blowers and Evans, 1997; Kenny and Meadowcroft, 1999; Margerum, 1999a,b,c). McHarg and Steiner (1998: 95), in noting the gulf between the 'orthodox' and the 'organic' schools of planning, conclude that whilst this gap persists, "interests in 'sustainability' and 'sustainable development' may indeed create a bridge".

In summary, the contemporary literature suggests that as we enter the first decade of the new millennium, it is possible to discern some emergent paradigm shifts in the philosophical and technical base of the evolving field of environmental planning as it continues to transition towards a sustainability philosophical base. These trends are summarised in Table 5.6. They acknowledge and build on the previously discussed contemporary evolutionary trends, especially those identified by Selman (1999) and summarised in Table 5.1.

Table 5.6: Evolving Nature of Environmental Planning in the Sustainable Development Debate

Attribute	Emergent Trend
Eco-philosophy	Sustainable and adaptive management with focus on Quality-of-Life/Livability issues
Level of integration	Holistic integration with emphasis on reestablishing connectiveness of systems
Importance of nature	Acknowledging landscape carrying capacities and ecosystem limits with an emphasis on landscape restoration
Importance of social science	Integration of social and cultural issues into planning and decision making
Planning process	Cyclic (adaptive) process including implementation phase with community ownership and involvement in implementation (including monitoring)
Critical scale of effectiveness	Regional (above local)
Degree of community engagement	Fullest partnerships
Role of science	Maximum use of science including civic science (citizen plus indigenous science)
Role of experts (Planners)	Facilitators, mediators, advisers and coordinators
Role of community	Providing informed guidance to the planning process (through visioning and establishing environmental values), together with total involvement in planning (incl implementation) and decision-making processes
Role of government	Supportive – provision of opportunities, resources and infrastructure
Level of systems control	Regulatory tiering of management responses from voluntary to regulation
Characteristic techniques	Based on responsive and adaptive management embracing cooperative solutions sourced through consensus building

(based on Selman, 1999)

It has also been recognised that there is a need to demonstrate the applicability of these emergent landscape management concepts to the larger regional scale. Whilst regional planning has waxed and waned within the traditional planning field, it has recently been give renewed

emphasis through the advocacy of allied and associated professions who have been seeking an appropriate scale to address the sustainability elements of their fields of endeavour.

McDonald (1996) has also noted the critical scale problem associated with achieving vertical integration for sustainable development. In raising the question regarding the most appropriate boundary of a sustainable system, he comments that decision making difficulties increase with scale, whilst conversely, the significance of the decision increases with the size of the region relevant to the decision. The solution to the scale problem lies in the creation of institutional structures involving rules and regulations defining powers and responsibilities for the various planning agencies. This brings into question the relevance of the region as a spatial unit of appropriate thinking, planning, management and governance for achieving sustainable development objectives. These issues are the subjects of the next Section.

5.4 THE NEW REGIONALISM

5.4.1 Contemporary & Emergent Views on Regionalism

The recent heightened interest in the management of regional scale landscapes has come from a number of distinctly different directions. Section 5.3 has already demonstrated its advocacy from within the landscape architecture discipline in the form of the landscape planning approach as well as from relatively new fields such as bioregional planning. Other views come from traditional planning (Glasson, 1992a&b, 1995, Glasson et al, 1997; Baker, 1995); geographical sciences (Claval, 1993); design professions (Leccese and McCormick, 2000, Neuman, 2000); government administration (Purdy, 1996). These are discussed below.

Ellyard refers to the "communitarianism" attribute that distinguishes his post Post-Modernism Spaceship (Planetism) Culture of the new millennium (see Table 1.2). He defines "communitarianism" as a consequence of economic rationalisation associated with a shrinking of government services and a simultaneous growth in community. He argues that the 'sense of community' grows with increasing delivery of government services through community organisations rather than through the bureaucracies (Ellyard, 1998:39). This new regionalism now calls for these challenges to be addressed on a regional basis.

It was noted in Section 5.3.2 that regionalism is seen as a completely organic phenomenon within emerging environmental planning circles (Kemmis in Forward to McGinnis, 1999). Complexity theory, (the constant emergence of order from chaos), is considered the science of the organic, one that helps to explain the contemporary philosophical approach to landscape management. It is in stark contrast to the rigid command-and-control institutions and spatial structures that dominate conventional planning and management regimes. Complexity theory

embraces the concept of "fractals", (ie patterns within patterns within patterns), which gives credence to the emergence of adaptive organic forms of connectiveness, community and governance, as well as the relationship between regional scale and other scales of planning and management.

Claval (1993: 160) considers that the current "fashion for regionalism leads people to identify with such or such an ensemble because it pleases them, because it offers agreeable landscapes, a clement sky, well-serviced towns, or because it was celebrated in literature, poetry or the cinema". Interestingly, these were similar views shared by Mumford, who had earlier attempted to link regionalism through regional planning to address two phenomena: the destruction of nature and the decline of urban life (Luccarelli, 1995). Poticha (in Forward to Leccese and McCormick, 2000: 3) reinforces these earlier notions and brings them into the contemporary realm when he comments, "in the twilight of the 20th century, people are increasingly concerned about both their quality of life and maintaining a basic standard of living. They are concerned about civic issues and building a civil community. I see New Urbanism as one piece of a movement whose time has come".

What is this 'new urbanism' movement? Barnett (2000) argues that we need new ways of managing our new technologies, urban growth and change itself as our old methods no longer work. This notion is at the heart of the New Urbanism for whilst the current problems and challenges confronting society today are not new, it is advocated that they should be addressed together - cooperatively in an integrated fashion. Hence, the city is linked to the region, the river to the catchment, and humans are part of the ecosystem. The New Urbanism philosophy also holds that we cannot start afresh, we must make do with what we have - the challenge is to do so but address the problems and hence the call for new approaches, new planning policies and new design techniques (Barnett, 2000). Campbell (1996: 303) also agrees with such an approach, arguing that "one cannot undo urban-industrial society. Rather, one must continue to innovate through to the other side of industrialisation, to reach a more sustainable economy". This will involve the development of innovative ways of rethinking, redefining, replanning, redesign, relinking, and reconfiguring our institutions, plans, and our landscapes. The philosophies of the New Urbanism have been encapsulated in a *Charter of the New Urbanism*⁹ which is comprised of twenty-seven basic principles for urbanism aimed at guiding public policy, development practice, urban planning and design.

⁹ Developed by the Congress of the New Urbanism, a broad-based coalition representing public and private sector leaders, community activists and multidisciplinary professionals. Their agenda is to reestablish the relationship between the art of building and the making of community, through citizen-based participatory planning and design, (Leccese and McCormick, 2000).

Thus with these emergent challenges has come a call to reorientate and refocus our thinking and practice of environmental and landscape management and planning to the regional level. Purdy, speaking of the US experience, has described it thus, "just as urban affairs was a public policy focus in the 1970s, regionalism is a hot issue in the 1990s" (Purdy, 1996: 3). Regions are at the largest scale of the *Charter's* interest and receive exclusive attention in nine of the Charter's twenty-seven principles. The *Charter* outlines emerging strategies of regionalism and the critical design and policy principles for these nine principles which are outlined in Figure 5.3.

- Charter of the New Urbanism - Regional Principles
(Regions: Metropolis, City, and Town)**
1. The metropolitan region is a fundamental economic unit of the contemporary world. Governmental cooperation, public policy, physical planning, and economic strategies must reflect the new reality.
 2. Metropolitan regions are finite places with geographic boundaries derived from topography, watersheds, coastlines, farmlands, regional parks, and river basins. The metropolis is made of multiple centres that are cities, towns, and villages, each with its own identifiable centre and edges.
 3. The metropolis has a necessary and fragile relationship to its agrarian hinterland and natural landscapes. The relationship is environmental, economic, and cultural. Farmland and nature are as important to the metropolis as the garden is to the home.
 4. Different patterns should not blur or eradicate the edges of the metropolis. Infill development within existing areas conserves environmental resources, economic investment, and social fabric, while reclaiming marginal and abandoned areas. Metropolitan regions should develop strategies to encourage such infill developments over peripheral expansion.
 5. Where appropriate, new development contiguous to urban boundaries should be organised as neighbourhoods and districts, and be integrated with the existing urban pattern. Noncontiguous development should be organised as towns and villages with their own urban edges, and planned for a job/housing balance, not as bedroom suburbs.
 6. The development and redevelopment of towns and cities should respect historical patterns, precedents, and boundaries.
 7. Cities and towns should bring into proximity a broad spectrum of public and private uses to support a regional economy that benefits people of all incomes. Affordable housing should be distributed throughout the region to match job opportunities and to avoid concentrations of poverty.
 8. The physical organisation of the region should be supported by a framework of transportation alternatives. Transit, pedestrian, and bicycle systems should maximise access and mobility throughout the region while reducing dependence on the automobile.
 9. Revenues and resources can be shared more cooperatively among the municipalities and centres within regions to avoid destructive competition for tax base and to promote rational coordination of transportation, recreation, public services, housing, and community institutions.

Figure 5.3: Charter of the New Urbanism (part) - Regional Principles

Calthorpe (2000: 15) provides additional weight to the reasons for this resurgence of interest in the region, commenting, "it's becoming clear that the economic building blocks of the global economy are regions - not nations, states, or cities. It's equally clear that many of our environmental challenges are regional in scope ... our basic infrastructure investments also are regional in scale and scope. Issues of economic equity, social integration, and race all now play themselves out in a regional geography our sense of place is increasingly grounded in the

region yet we have no framework for this new reality, no handle to guide it, nor any established means to harvest its opportunities". Calthorpe argues that we need to develop tools and means for more effective regional governance in order to achieve more integrated regional frameworks consistent with the principals of the Charter.

Yaro's views on the harmonious relationship between a region and its natural environment giving rise to a strong and healthy region have previously been noted (see Section 3.1.2a). He also argues that regions are finite places with geographic boundaries derived from topography, watersheds, coastlines, farmlands, regional parks, and river basins. To achieve and maintain a healthy, livable and prosperous region whilst safeguarding its important cultural and natural resources, Yaro (2000) contends that an effective system of regional planning and management is necessary and achievable through a comprehensive regional plan.

5.4.2 A Regional Planning resurgence

a. The contemporary regional planning imperative

Glasson et al (1997: 32) support Yaro's view noting, "there is a strong regional planning imperative - because regional issues endure, although their nature may change over time". Earlier, Glasson (1992b: 525) had noted that "a cautious optimism is returning to regional planning in the economically advanced nations". Traditional planning has been through a number of previous booms at the regional level. Baker (1995) identifies two relatively recent booms for British regional land use planning, the first in the 1940s and the second, twenty years later and lasting until the mid 1970s. He notes that the second period was dominated by all-encompassing systems thinking and attempts at integrated planning, but largely of land use and transport models. There is also growing interest in regionalism from an economic development point-of-view, particularly in response to the processes of globalisation and technological developments where it is argued that the region is becoming the spatial unit of economic competition in the global economy, (Glasson, 1992a&b; Claval, 1993; Purdy, 1996; Scott, 1996; Castells and Hall, 1996; Hall, 1998; Ravetz, 2000).

Neuman (2000: 115) attributes the sources of contemporary regional design to the renaissance of "physical design both in practice and the academy, spurred on by neo-traditional community planning and neo-urbanism". Earlier responses dealt with growth management, using conventional planning tools and methods (eg zonings, transferable development rights, etc), but not design. The principle exception was the ecological design methods advocated by McHarg, (see Section 5.3.1). However, Neuman believes that even this inspirational work by McHarg and Lynch lacked the comprehensive planning and design approach to regional planning advocated by the early pioneers such as Olmsted, Howard and others over 100 years previous.

Neuman dates the rebirth of contemporary regional design from the late 1980s with the New Jersey State Plan, noting that these advances have come from the practitioners and not from the academics. The innovations have occurred in the metropolitan realm, orchestrated by non-government and government regional entities. The New Jersey State Plan constituted a Regional System Advisory Committee comprised of twenty practitioners, scholars, and special interest group representatives, akin to the RPAG and RCC of the local SEQ 2001/SEQ2021 Regional Planning project, (see Section 3.3.3c [ii]). The regional design process involves many actors and stakeholders in an intense region-wide collaboration, operating within a defined institutional context, over an extended period (of years), to derive a corporate plan of action for the region.

Neuman (2000) has defined regional design as a strategic and a regional approach to devising a physical framework for human settlements in harmony with the regional landscape. It addresses communities, their linkages and their environs, to achieve the most beneficial location, function, scale and inter-relationships of communities within a region. He notes that much of this effort is being driven by the emergence of metropolitan economies as nodes of the emergent global economy with associated technological developments, and high degrees of mobility. Regional cooperation in guiding the ongoing development and redevelopment of communities of places is the thrust.

Neuman (2000: 127) notes that "the very sense of what is a region is shifting rapidly in this global context (*and*) to effectuate regional design, institutional design becomes paramount". To this effect, he noted that countries that had provincial and/or regional institutions of governance had the advantage in regional institutional design, as they had the means to coordinate and execute regional planning. He concludes, "regional design is becoming the next frontier for planning and design professionals. When coupled with institutional design, regional design can move from frontier to franchise".

b. Emerging challenges

Could this recent wave of regional interest be the result of a non-ethnic version of Ellyard's "Tribalisation" forces, (see Section 1.4.1a) and is it related to various national political agendas such as Blair's approach for revamped governance in the UK? Baker (1995: 280) believes that essentially it is, when he comments, "the (Conservative) government appears committed to the production of regional guidance, and its subsequent monitoring and review ... (*and*) the (Labour) opposition have expressed support for ideas of greater regional autonomy, the prospects for some form of regional government have seldom been more favourable". However he also notes that the government's regional planning guidance (RPG) is limited to only land use issues, and that there is no evidence that the government intends to widen the scope to include

other issues critical to the wellbeing of the regions. A number of reviews of the RPG approach have observed weaknesses such as the limitation to land use issues, the absence of genuine regional issues, inadequate analyses, lack of vision, mere replication of structure plans or national planning policies, poor institutional arrangements especially for the development of the RPG, exclusion of metropolitan counties from the process, poor opportunities for public participation, lack of regional distinctiveness, failure to advance national environmental objectives, and over-centralisation of power (Baker, 1995). He also reports a second series of debates concerning the future statutory status of the RPG.

Glasson (1992b) points to failures of previous regional planning initiatives in the UK and other countries, attributing this to a number of factors, namely a hostile political and economic climate, and its failure to live up to the community's high expectations of it. A principal criticism from Glasson was reserved for regional planning's failure "to bridge the plan formulation-implementation gap" (Glasson, 1992b: 509). a circumstance not restricted to Europe as has been previously noted in the Australian context. More recently, Glasson (1995: 713) has noted the twin problems of "institutional unwillingness" and "institutional technical inability" to adequately address the sustainable development issues at the regional level. He considers that strategic environmental assessment (SEA) may provide some solutions to these challenges.

These identified weaknesses and concerns have a striking similarity to the Australian and the local SEQ regional situation of the same period, (see Sections 3.1.3 and 3.3.3c[ii]).

c. Promising Initiatives

Can the recent rejuvenation of regional planning interest, particularly strategic planning, be criticised for "reinventing the wheel" as So (1984) has asked? Glasson (1992b), quoting Bryson and Roering, argues that a number of features distinguish contemporary strategic planning from past efforts, namely its emphasis on action, consideration of a broad and diverse range of stakeholders, attention to external opportunities and threats and internal strengths and weaknesses, and attention to actual or potential competitors. Glasson also notes a number of other recent developments in the field of regional planning in Europe. In the substantive area they have included changing explanations of regional economic development, (noting in particular the impacts of recent globalisation and technological innovations), and the locational relationships with local environments and attempts to measure the 'quality of life' by location. Procedural developments have seen the rediscovery of strategic planning at the regional level. Procedurally, regional planning methods have had to address the 'bidirectional' relationship between planning procedures and the environment. Glasson refers to this planning method of procedure as being both environmentally responsive (ie. environment shapes method), and also

environmentally effective (ie. method shapes environment). However, he consider that the most overriding feature of regional development policies in the 1990s to be the shift towards a mix of top-down and bottom-up initiatives. He also points to differences in the power base that may be associated with the strategic regional planning exercise whose outcomes may range from a general 'advisory' status through to direct statutory power. As noted in the previous section, this debate persists.

Baker (1995) has noted a number of recent initiatives that may have a bearing on future regionalism issues in the UK, namely: a shift in decision-making power from central to local governments in the development plan system; growing recognition that contemporary sustainability issues need to be addressed at a wider scale and in a wider context, hence the need for a more effective and comprehensive regional planning framework; impending local government rationalisation that may result in inadequate institutional mechanisms to address regional planning and the difficulties in establishing effective mechanisms for local authority cooperation to prepare joint strategic policy statements; the existing EU regional programs that already bypasses nation states; a reorganisation of central government resulting in the integration of regional offices which is expected to improve coordination of government policy and services across the regions; and a return of strategic thinking to land use and economic planning (reawakened by issues of sustainability).

These views are shared by Ravetz, (2000) who also considers that sustainable development initiatives will require political transformation alongside economic, social and physical transformations. More specifically, Marshall (1998) has noted that in contrast to the tentative attempts of the early 1990s in Britain to incorporate environmental priorities into regional planning strategies, sustainability has not received a high profile until recently. In comparison with other European countries, namely Germany, Marshall concludes that attempts to achieve more radical greening of regional strategies in Britain are still in their infancy. In reference to economically advanced nations, Glasson (1992b: 525) has concluded that "the innovative/adaptable region is attracting and generating high-technology services and manufacturing industries often by virtue of its indigenous assets (*including*) its physical/social/cultural/business environment". He notes however the growing recognition for an enlightened form of strategic planning.

All of these concerns and issues are at the heart of the current regionalism initiatives outlined in the *Charter* and by other commentators. However, as Glasson and Baker's comments demonstrate, it has to be on the political agenda, and there has to be a demonstrated political imperative to produce the change expressed by advocates of the *Charter* and other pro-regionalism initiatives. However, many commentators now believe that it is highly probable

that the current regionalism initiatives will move further than previous attempts as it has the benefit of a broader range of regionally focused disciplines to now draw from (Baker, 1995; Selman, 1996; Ravetz, 2000).

5.4.3 Other Associated Regional Applications

Further weight to calls for regionalism come from the regional variations of recent environmental management tools and approaches such as the Local Agenda 21 (LA21) initiative, the environmental impact assessment (EIA) process, and state of environment reports (SoERs). All have regional variants in the form of:

- Regional Local Agenda 21;
- Strategic Environmental Assessments (SEA); and
- Regional State of Environment Reports (SoER).

a. Regional Local Agenda 21

In the case of LA21 there have been a minor number of instances where proponents have suggested the application of the LA21 principles and procedures to the regional level, although the Australian examples do not specifically refer to LA21, instead they refer to Regional Conservation Strategies (ALGA, 1995; Brown, 1997). The joint or regional model can involve two or more local authorities developing a strategy at the regional or catchment level (Robson, 1992). She notes however that success will depend on existing inter-council links and an existing culture of resource sharing and cooperation. One local case is the Ballarat regional strategy. Undertaken in 1990, it was a cooperative effort by seven local authorities based on their existing Economic Development Board. A comparison of the issues addressed in the conservation strategies completed by twenty-three individual Victorian municipalities, including the Ballarat region, demonstrated that it was one of only a few to address ecological principles (1 of 3) and sustainability issues (1 of 4). However it did not address any issues unique from other municipalities (Robson, 1992). The major advantages advanced in favour of the regional approach were cost sharing, actions can match the boundaries of the environment and issues (eg a catchment), and cross-boundary issues can be effectively addressed. Disadvantages included problems with coordination, cooperation, and implementing across diverse councils and groups (Robson, 1992: 14).

b. Strategic Environmental Assessment

Glasson (1995) believes that SEA may have considerable potential as a means to integrate socio-economic and biophysical considerations at the regional scale in order to incorporate sustainable development objectives in regional planning initiatives. Whilst SEA can expand EIA from the individual project level to considerations of policies, plans and programs at the sectoral, indirect, or regional (cumulative) level, it has some shortcomings. In noting the

inability of the EIA process to consider broad strategic questions such as the suitability or the wisdom of a project, and the general absence of suitable baseline data for regional assessments, Glasson suggests that the SoE process should gradually contribute to addressing these deficiencies.

A major benefit of the application of SEA is its ability to advance higher order (national) policy objectives to lower order initiatives through the cascade effects set up by the process between various tiers of management and administration (Therivel et al, 1992; Glasson, 1995; Harvey, 1998). A further benefit would be the use of the SEAs findings in publicly accountable decision-making (Therivel et al, 1992). However, it has been reported that whilst there is potential to apply SEA at the national and state levels in Australia, the full potential has not been realised (Court et al, 1994; Harvey, 1998). On the other hand, there are a number of cases where the elements of the SEA process have been completed but without being identified specifically as SEA. These include various Royal Commissions, the (former) RAC inquiry process and the integrated approaches to developing management strategies for regions such as the Great Barrier Reef Marine Park and the Murray-Darling Basin, (Gilpin, 1995; Harvey, 1998). Glasson (1995) cites the New Zealand experience with its RMA as a good example of the successful (in principle) integration of SEA and regional planning. He notes that this success is due to the explicit purpose of the Act in promoting sustainable management; the broad definition of the environment to include ecosystems, people and communities, natural and physical resources, and amenity values; the parallel law and institutional reform; and local and regional government reorganisation. A major initiative is the extension of the assessment process into monitoring.

A Commonwealth government review of SEA in 1994 noted that there is a need for more rigour in regional planning and for the implementation of integrated resource management (Court et al, 1994). The report argued that this should extend to include consideration of cumulative, regional and long term impacts, and the assessment of development proposals within a regional carrying capacity context. In this regard, it also concluded that the goals of ESD could be achieved through a broadening of the EIA process to include SEA. However, recognising that regional planning was best carried out by State or special-purpose regional bodies, the review concluded that adoption of SEA would require a shift of detailed environmental assessment from proponent to planning and resource management authority.

Interestingly, the review also concluded that landscape units (eg water catchment areas) provided the appropriate scale for cumulative impact assessment (CIA) and SEA, but they presented institutional difficulties which would require fundamental changes which would

directly challenge entrenched practices, jurisdictions and value systems (Court et al, 1994: Chapter 6).

c. Regional State of Environment Reports

Early calls for periodic regional assessments came from Lynch (1976) who saw a diagnosis of the sensory state of the region as a useful device for providing basic data for public action. He considered that "better information will in itself influence (and presumably improve) the actions of others". He held the regional planning agency responsible for the analysis of regional quality, which would be issued through "a periodic general report on the sensory state of the region" (Lynch, 1976: 41). Whilst acknowledging the significant associated costs and potential for governments to ignore these reports, Lynch advocates for a focus on a few key aspects that could generate widespread political or educational activity.

More recent calls for regional scale audits to influence actions have come from Selman (1996). Whilst noting that state of environment reports (SoERs) range from "district and regional, to national and international, and even global scales a greater sense of association and significance may be achieved by integrating these indicators on a spatial or regional basis so that they can be mapped for areas - or ecozones" (Selman, 1996: 60/61). One of the increasing important future challenges in this regard will be to properly integrate regional SoERs with those of other scales.

5.4.4 Regional Governance

Various approaches to environmental and landscape management through regional planning and governance have previously been canvassed in Chapter 3. It has also been suggested that these changes in approaches to governance are a world-wide phenomena characteristic of the changes already experienced as well as predicted for this new century (see Section 1.4).

Marshall (1998) concluded from an examination of "the conditions for environmentally intelligent regional governance" in Germany, that strong environmental action and government commitment are absolute necessary preconditions. He identified the following preconditions:

1. a strong regional jurisdiction - involving regional governments creating sectoral policies for integration into spatial plans for the landscape;
2. strong environmental sectoral planning - capable of leading to strong spatial regional planning;
3. the involvement of the economic arm of government - an important element in any ecologically reformed spatial planning strategy;

4. a power balance between private and public sectors - a potential role for central government to establish regional negotiations and ensure that such balances are achieved in any 'partnership' arrangement;
5. the framing by central government - it is vitally important to resist over-governing by central governments at the expense of flexibility for regional and local policies;
6. effective transmission from regional to lower levels - vital to achieve effective integration of lower order plans and policies into the regional framework;
7. a strong sustainability discourse may not be a key condition for improved environmental governance - achieved in Germany in absence of Agenda 21 and similar initiatives.

Based on North American experience, Yaro (2000) argues that whilst regional governments are not required in order to implement regional or metropolitan strategies, some form of regional governance is necessary. He considers that this initiative could come from a number of sources including: a civic group with powerful business or community leadership; an association of local governments; a regional council; an existing regional service agency, especially one based on a catchment; a grouping of catchment communities; or a regional grouping of cross border governments.

Claval (1993) has described the French experience of adapting to the new scale of local life and the need to improve local coordination of action through the management of what he calls 'territorial collectives', rather than through traditional administrative structures. To Claval, these regional collectives provided a scientific basis to regional administration and management, including policy development and implementation. Based on UK experience, Ravetz (2000: 250) provides further support to this argument, commenting, "there is a strong case that the ... city-region is the best level to motivate and organise sustainable development - large enough for critical mass, and small enough to be manageable". He adds, "the challenge of sustainable development - where the whole is greater than the sum of the parts - demands a high level of coordination and integration for synergy and added value (*and*) to encourage and enable such integration we propose a city-region 'sustainable development framework' an over-arching vision and strategy, embedded in collaborative structures and networks".

These developments in regional thinking have not bypassed Australia. In the past decade, there have been growing trends towards regional approaches to planning and management. The domestic experience has previously been discussed - see Section 3.3.3c(ii) for Australian regional planning responses, Section 3.3.6a for the catchment as a regional planning unit, and Section 4.2.3b for cooperative regional initiatives involving voluntary collectives of local governments. The two aspects of significance to this study are the provision of a level of regional governance and the use of collective local government groupings within a catchment

for regional planning and management purposes. These aspects have been defined by the previously discussion of this study's research themes and they are considered in further detail below in the context of the discussion thus far.

a. The Sustainable region

Selman (1996) notes that the historical regional boundaries may not make any sense in contemporary terms, especially administrative ones established some time ago. He argues that river catchments or biological habitat types may provide a better environmental framework for pursuing sustainable development and integrating the activities of public agencies and the private sector. However, Selman (1996: 35) adds a pragmatic note to this proposal, commenting, "it is of course, very unlikely that statutory administrative areas will be reorganised on this basis alone". He further acknowledges that notions of sustainability can shape our appreciation of regions and identify the importance of the 'ecological footprint' work of Rees et al (see Simpson et al, 1995 and 2000).

In his original 1969 treatise, McHarg promotes the use of the drainage basin as a basic unit for ecological study using the Potomac and the Delaware basins as study areas. He considers that his ecological planning methods evolved during this work. He concluded, "the most important conclusion drawn from the study was that nature is systematic, and, therefore, that the presence of opportunities and constraints for all prospective uses is systematic too. This means that the planning process can become overt, explicit, replicable, having the characteristics of a scientific experiment" (McHarg, 1996: 331).

In regard to subsequent management arrangement for these basins by special multistate agencies, he would later express his disappointment at their lack of commitment and reluctance to use their special powers, commenting that "the Compact could have undertaken comprehensive planning for the maintenance and enhancement of water quality. However, the Compact refused to engage in planning and limited itself to adjudication of water allocation in the area" (McHarg, 1996: 332). He leave no doubt as to whom he holds responsible, noting that these agencies were originally staffed by engineers and economists, so that when he offered them some ten years of ecological planning data and analysis, "there was no one on the staff who could read, far less understand, the material" (McHarg, 1996: 332).

Steiner et al (2000: 145) make the point "planning at watershed level is a difficult enterprise in a fragmented political landscape". They were reporting on one of the first applications of a bi-national watershed approach to ecological planning in the US-Mexico border region. Their studies demonstrated that one of the principle threats to biodiversity was landscape fragmentation, which inturn was the result of a lack of coordination of local plans and the

geometric land division system (subdivision) – confirming issues previously noted and discussed in Section 3.3.6c. In review they note that "crisis motivates action and recent institutional activity points towards inter-jurisdictional cooperation to maintain natural resources like water supply" (Steiner et al, 2000: 145). Not surprisingly then, they conclude with a strong call for the application of an ESA framework noting it as "a useful focus for cooperation in the absence of formal watershed planning and (*that*) a universally recognised system helps to a small degree to overcome the strictures of administrative fragmentation (*noting that ESAs are*) a practical tool for the development of watershed-level strategies for sustainable development" (Steiner et al, 2000: 145/146).

Rees (1999) argues that consideration of scale is an important issues in addressing sustainability, notably the resolution of tensions across spatial scale, with perhaps the best opportunity coming from the community and bioregional levels. He suggests that evidence has already emerged as to the potential benefits of greater ecological independence and intra-regional self reliance and cites the following potential advantages: (i) it would result in a more reasonable and manageable match in scale between the management unit and the ecosystem being managed; (ii) people who depend directly on the resource system are more likely to manage it for the long term; (iii) a philosophy of locally-based resource management may enable the establishment or re-establishment of effective common-property management regimes at the community level for mobile resources; and (iv) if each significant urban region were to manage its own territorial resources in a sustainable manner, and enter into only ecologically balanced and socially fair exchanges with other regions, then the aggregate effect would be global sustainability (Rees, 1999: 121).

Further support for rethinking the boundaries of what may constitute a sustainable region comes from Campbell (1996). In advocating for economic-ecological bilingualism, (see Section 5.2), Campbell argues that we need to rethink the boundaries for analysis and planning so that the spatial scale for planning reflects the scale of natural phenomena such as a river basin. In the case of economic planning, the spatial scale should match the social phenomena, such as municipal boundaries. He sees the solution, as part of the move towards achieving sustainable outcomes and involving the overlay and merger of these two spatial scales - something that McHarg conceptualised and practiced within the landscape planning field some time ago (see Section 5.3.1). Campbell also notes that planner are already well versed in such multidisciplinary approaches and therefore well positioned for translation.

Other authors have also pointed to problems of scale and management structures which can result in a serious hiatus between attempts to address localised problems when the genesis may be outside the local control or where the effects may result outside the local plan area

(Briassoulis, 1989; McDonald, 1996). Briassoulis (1989: 382) refers to this situation as "the disturbing separation between the locus of their causes and the locus of their effects".

Solutions to these problems can be found in a regional scale integrated approach provided that a greater range of landscape and resource managers and decision-makers can be encouraged to operate at this level and can be brought together in some form of collective and cooperative working arrangement involving the broader community.

b. Collective local government

Agenda 21 acknowledged the importance of the local government level to achieving sustainable development objectives, noting that "local authorities are important in shaping environmental infrastructure, planning and policies because their governance is 'closest to the people' ... (*they*) have a vital role to play in achieving the objectives of Agenda 21 ... (*and*) consultation, cooperation and coordination among local authorities should be established or enhanced ... " (Grubb et al, 1993: 139). In dealing with the topic of "Integrating Environment and Development in Decision-Making", Agenda 21 advocated "delegating planning and management responsibilities to the lowest level of public authority consistent with effective action" (UNSD, 1999; IGC, 2000). Selman (1996) fully supports this view, advocating for the principle of 'subsidiarity'¹⁰. He also notes that from a sustainable development point-of-view, up to sixty percent of action programs need to be addressed at the local level, with many but not all, in the local government arena. He concludes, "thus the local level - and its governmental bodies, workplaces, interest groups and individual citizens - is crucial to the attainment of sustainability" (Selman, 1996: 21).

These views were further reinforced by the 1996 Habitat II conference which sought commitments from national governments for their encouragement of "cooperation between local authorities, to strengthen the networks and associations of local authorities" (UNCHS, 1996). It further argued that nations should develop strategies for sustainability and implement them directly through regional and local planning, such that "national plans should be extended by regional and local land-use plans ... a joint project of government and the people who live in a region" (IUCN/UNEP/WWF, 1991: 66).

Within the domestic environment it has long been recognised that many contemporary matters of concern to local authorities now extend far beyond the boundaries of a single local authority. Bowman and Hampton (1983: 12) argue that "resource management, to be effective, requires an

¹⁰ The requirement for the maximum possible transfer of power down the bureaucratic hierarchy – a prerequisite for sustainable development – see also Section 5.2.

area far larger than that of most local authorities in short, contemporary conditions require partnerships, cooperation and a measure of integration between local and central governments".

Interestingly, Brunckhorst believes that knowledge or the lack of it is not the problem in resource and environmental management. Instead, he considers that "institutional impediments are a larger barrier to implementation of critically necessary, inter-disciplinary and cross-jurisdictional resource management at regional, continental and global scales" (Brunckhorst, 2000: 46). To this end he argues that "cooperative trans-disciplinarity must be engendered, not only in science, but also across all land managers, government agencies, and citizens as a key part of strategic bioregional planning" (Brunckhorst, 2000: 48). Whilst clearly there is a crucial need to embrace a more holistic and integrated approach to environmental planning and management, the critical future role of local government in this regard must be acknowledged.

Calthorpe cites the imperative issues for this conundrum thus, "as our cities and suburbs grow together economically, we find ourselves in a new metropolitan culture built out of regional institutions, history, ecologies, and opportunities. Our sense of place is increasingly grounded in

the region rather than nation, town, or city yet we have no framework for this new reality, no handle to guide it, nor any established means to harvest its opportunities. Some of our most vexing problems need solutions that recognise the new economic and social unity of our regions, rather than the piecemeal policies of local governments or bureaucratized state and federal programs" (Calthorpe, 2000: 15). Whilst speaking of the situation in the USA, his comments apply equally well to the emergent Australian situation where quality of life issues have been driven to the fore.

The crucial role that local government can play in regional exercises (particularly, bioregional assessments), acting as a link between private interests (landowners) and higher levels of government and bureaucracy has been attested to by Kennedy. He points out that "the linkage to state and private land are critical local governments are likewise very aware of the integrity of private-property rights" (Kennedy, 1999: 327). Hooper, McDonald and Mitchell, (1999: 762) also acknowledge that "local government could become the dominant force in managing local resources ranging, for example, from vegetation management on private lands, water use and waste water emissions, to wetlands and coastal management within parameters set at other levels of government". They foresee local government dealing with a greater range of resource and environmental issues in the future, including the seeking of biodiversity objectives through compatible agricultural activities and habitat protection.

Halligan and Wettenhall (1990) observe that the progressive era in Australia witnessed the beginning of the metropolitan-wide ad hoc authority that shifted important operations from the local government to the statutory authority sector. It also witnessed the increased pressure to 'regionalise' many traditional local government services.

However, Gilbert et al (1996) believe that local government can expand its capacity through collaboration¹¹, noting that its absence may lead to unnecessary competition. They comment, "what needs to be done by local authorities cannot always be achieved by their acting alone a local authority responsible for only part of a watershed cannot engage alone in effective ecosystem management of the watershed, or indeed any other kind of regional planning. It needs to collaborate with other local authorities in the region, and with other governments responsible for the region" (Gilbert et al, 1996: 36). Whilst acknowledging the constraints of a lack of legitimacy and capacity at the local government level, Gilbert et al (1996: 120) contend that "local governments are the bodies with the greatest potential to take integrated approaches to the environmental and social challenges of urban areas".

The background, attributes and lessons learnt from many years of experience with Voluntary Regional Organisation of Councils (VROCs) in Australia have previously been discussed in Section 4.2.3b. A review of voluntary regional cooperation by local government in integrated regional planning throughout Australia has demonstrated:

- a stronger focus by all levels of government towards better integrated regional planning and management coupled with a more strategic approach to regional development;
- a trend against rigid, hierarchical, 'top-down' approaches in favour of customised responses suited to local circumstances;
- a range of opportunities exist for VROCs and local government in the evolving forms of governance;
- a role for VROCs as the lead agency for regional planning exercises involving more than one local government area and as a focus for inter-governmental relations on regional issues;
- that the more prominent VROCs coincide with the existence of extensive communities of interest linking member councils; where there is strong Commonwealth/State interest in and support for the regional initiative; and where State governments have formally recognised the role of the VROC; and where the VROC actually administers or provides an umbrella for the delivery of specific Commonwealth, State or Local services; and

¹¹ Gilbert et al (1996) also discuss the notion of local government collaboration and cooperation in a non-geographic and co-located sense. That is, across national borders in the form of national and international alliances or associations.

- that VROCs can play a greater role in strategic regional planning and management through cooperative action focused on a limited number of key issues, or individually through a more integrated approach with the other levels of government. It was concluded that most local authorities would most likely adopt the former approach, (Graham Sansom Pty Ltd, 1994).

Achieving and maintaining a healthy, livable and prosperous region whilst safeguarding its important cultural and natural resources requires an effective system of regional planning and management set within a regional governance system that has universal political acceptance.

5.5 EVOLVING REGIONAL LANDSCAPE PLANNING PARADIGMS

The literature firmly establishes a resurgence of interest in the region as an appropriate scale to address emergent environmental and landscape management challenges. The accompanying regional planning resurgence is encapsulated in the 'new urbanism' movement, whilst calling for new ways to address these emergent challenges, acknowledges that our old methods no longer work. Without the luxury of starting anew, it advocates that we need to find new approaches that involve a reorganisation of the ways in which we have planned and managed our landscapes at the regional level. There is increasing acceptance that the local and regional levels are the most appropriate for addressing emergent sustainable development issues. This has led to widespread support for the notion that regional collectives of existing local governments cooperating in an integrated fashion can provide a scientific basis to regional administration and management, including policy development and implementation. It is also recognised that regional governance can come from a number of sources many of which can include one based on the river catchment involving a regional grouping of cross border local governments working together with agencies of higher orders of government and the catchment communities.

These calls for collective regional planning initiatives from collaborative local government arrangements are entirely consistent with the evolving planning paradigms that have previously been identified. It was noted that a principal element of the paradigm shift acknowledged the need to consider a regional scale. In particular, they accord with what Selman (1999) has identified as *the critical scale of effectiveness* and what McDonald (1996) had earlier questioned was *the most effective boundary of a sustainable system* – see Table 5.6 and Section 5.3.5. Other elements of the emergent paradigm shift associated with the evolving field of environmental planning that have been identified relate to its transitions towards a sustainability philosophical and technical base.

Whilst providing an appropriate environmental framework for pursuing sustainable development and integrating the activities of public agencies and the private sector, regional

planning at natural river catchment level can be a difficult enterprise in a fragmented political landscape. It has to be on the political agenda of all levels of government, and there has to be a demonstrated political imperative to produce the expressed changes. However it is encouraging that many commentators now believe that it is highly probable that the current regionalism initiatives will move further than previous attempts as they have the support of a broader range of regionally focused disciplines. The critical future role of local government in this regard must be acknowledged.

The contemporary literature has also demonstrated that procedural developments have seen the rediscovery of strategic planning at the regional level. This has led to a number of promising initiatives that distinguish contemporary strategic planning from past efforts, namely its emphasis on action, consideration of a broad and diverse range of stakeholders, attention to external opportunities and threats and internal strengths and weaknesses, and attention to actual or potential competitors. Other authors have emphasised the serious challenges of addressing and bridging the plan formulation-implementation gap that have received scant attention to date.

The literature has confirmed that within the traditional mainstream and associated planning fields there has been recent evidence of a convergence of landscape management philosophy particularly under the sustainable development banner. Whilst there is growing agreement that a planning paradigm shift in terms of both a substantive and procedural sense is necessary, there is only recent evidence that such a shift has actually commenced. Consequently the process of change and enhancement to our systems and processes for landscape management have some way to go and they will be subject to many influences along this path. There will also be many instances where this enhancement can be informed from the intellectual development and experience from associated fields of study. These issues and opportunities are explored in detail in the following Chapter.

6.0 FRONTIERS OF CHANGE - Converging Paradigms for Landscape Management

This study has examined the literature across a number of fields and disciplines that are related to the three research themes. The breadth of this review has included traditional (and evolving) forms of planning and management, associated and allied planning, futurology, environmental science, resource and environmental management, organisational and management science, and public administration and policy. This review has revealed the emergence of a number of consistent themes with similar foci and direction whose nature and extent are the subject of this chapter.

In terms of addressing emerging management challenges, Westly (1995: 392) has described management as "a discipline born from the coming together of old knowledge, from diverse sources, into new perspectives. It is related to and fuelled by many of the disciplines in the social sciences, but it differs from the social sciences in its overarching drive towards practice and its concern with the technical knowledge (it) offers practical guidance as well as theoretical reflection ". Dovers (2000: 15) argues that "uncertainty, complexity, and stretched temporal scales in natural systems challenge our arrangements, while increased community participation and emerging multiple interests beg new approaches". Gordon (1999: 43) drives the point home when he comments, "we need a new model for linking science, management, and policy, a structure that synthesises science and management, and by which that synthesis can inform public policy".

The discussion thus far has demonstrated that the evolution of practical experience and development of theory has reached the present point where it is evident that there is a definite convergence of thought in regard to the best way forward for environmental planning and management. It is against this background however, that Colby (1991: 194) warns that "all too often, the implications of changing conditions and innovations in thought have not been well-recognised; all variations are viewed by the prevailing paradigm as belonging in a single basket of strange thoughts". Consequently, whilst there is still much debate and a long way to go, the contemporary literature does suggest that there is a definite convergence of ideas and proposals from different fields of study and disciplines. This further suggest that it is opportune to take stock of this evolving situation, to consolidate, and to seek opportunities to cooperate, to collaborate, and to coordinate future research and applied planning and management activities.

What is also most evident, are the similar trends being developed within the different fields and disciplines that are the response to pressures from: *external sources from above* (a consequence of globalisation and technological changes); *internal and lateral sources* (the individual

disciplines and fields of endeavour); and *external sources from below* (from the community, users and decision-makers).

The emergence of these converging forms of planning and management can be examined along a continuum of discrete fields of endeavour, all evolving through the three phases of the past, present and the future. The past, discussed in Chapters 1, 3 and 4, was characterised by: compartmentalisation; isolationism of disciplines; "turf" guarding; limited to no interaction and communication, little or no recognition of a role for private enterprise and the community-at-large, and centralised approaches to management.

The present, (partly in Chapters 3, 4 and 5), is largely characterised by: overlap and duplication; repetitive (reinvention) planning and management systems; limited but increasing interaction and communication between disciplines, between institutions, and involving the community; commencing but immature (crude) forms of institutional cooperation.

Futurologist, (see Section 1.4), predict the future through systematic analysis, especially through existing trends. These futures (eg a move towards Ellyard's Spaceship Culture or Planetism), could be characterised by: high degrees of integration in planning, decision-making, monitoring and evaluation in implementation; conflict management; free flowing communication between disciplines, the institutions, decision-makers and the public; achievement of higher degrees of comprehensive coverage of issues, assessment, planning and management. It is anticipated that future planning and management could occur within an impending context that was previously hypothesised in Section 1.4.3.

This review of relevant and associated fields of study and disciplines has pointed to a high degree of convergence of thought and correspondence of philosophy as previously noted. These emergent and anticipated changes are examined in the following sections.

6.1 CONTEXT FOR CHANGE IN LANDSCAPE MANAGEMENT

It has been suggested that the nature and scope of the convergence of these emerging initiatives in landscape management can best be understood by examining them within the context of the evolving forms of environmental planning and management. In particular, it would be informative to assess these converging trends against the overarching intellectual developmental phase for environmental planning and management. Support for this approach comes from Mazmanian and Kraft (1999) who argue that the best way to understand the vast array of confusing laws, policies, programs and-the-like is to gain an understanding of the broad trends in what they called "the underlying environmental movement" that gave rise to this situation.

One of the more compelling benefits for undertaking such a study that they advance is to be able to distinguish between past and present initiatives and thinking, as well as to define leading-edge thinking and policy proposals in efforts to move the environmental agenda forward. To this end they have identified three distinctly different but internally coherent epochs, namely: (1) the rise of environmental regulation; (2) the period of flexibility and regulatory reform; and (3) the movement towards sustainable development. Based on their USA experience, Mazmanian and Kraft's describe their epoch framework thus:

1. **First Epoch:** *regulating for environmental protection (1970-1990)* - characterised by an array of environmental laws and top down regulations, with an over-reliance on 'command and control' approaches. In the light of the regulatory approach's high costs and inefficiencies, its focus on remedial as opposed to preventative measures and its complex, cumbersome and adversarial rule-making style, questions have been raised as to its ability to achieve environmental sustainability. Other limitations include a lack of flexibility and incentives for industry and government compliance, and the inability of these prescriptive statutory means to adequately address contemporary environmental and landscape management challenges;
2. **Second Epoch:** *efficiency-based regulatory reform and flexibility (1980-1990)* - this transitional phase placed emphasis on incentive-based policy approaches and community and regionally based decision making. It sought to balance environmental objectives with other social and economic priorities. During this phase it became evident that government could not address all the policy issues alone. It also witnessed the beginnings of a devolution of decision making to lower levels of government/communities; and
3. **Third Epoch:** *towards sustainable communities (1990+)* - involves a move from conventional environmental concerns to embrace a wider and more comprehensive complex of sustainability considerations. These include consideration of the community's physical, psychological, economic and cultural well being. This also involves increasing recognition of the interdependence of human and natural systems.

Relevant characteristics that distinguish this third epoch acknowledge a range of attributes and initiatives in the following areas:

- Policy objectives:*
- Harmonise human and natural systems on a sustainable basis
 - Balance long-term societal and natural system needs through system design and management
 - Focus on resource conservation
 - Halt biodiversity diminution
 - Embrace eco-centric ethic
- Policy approach:*
- Comprehensive future visioning
 - Regional planning based on sustainable guidelines
 - Experiments with new approaches
- Information needs:*
- Sustainability criteria and indicators
 - Eco-human support system thresholds
 - Ecological footprint analysis
- Points of intervention:*
- Societal needs assessment and goal prioritisation
 - Industry attention to product design, materials and selection
 - Environmental strategic planning
 - Individual behaviour and lifestyle choices
- Implementation philosophy:*
- New mechanisms and institutions that balance the needs of human and natural systems
 - Mechanism created to enforce collective decisions
 - Community capacity building and consensus building
- Institutional context:*
- Public-private partnerships
 - Local-regional collaborations

Based on Mazmanian and Kraft (1999)

These trends are consistent with the emergent planning and management trends and paradigms previously discussed, especially those applicable to holistic, integrated, collaborative and participatory efforts at the regional level with devolved decision making and a focus on implementation (see Section 5.3.4 in particular).

Principal elements of this third epoch centre on the issue of implementation and the information needs that are far more complex than hitherto. A far higher degree of scientific and technical

data is now required along with a better understanding of ecological processes. Mazmanian and Kraft (1999: 30), quoting Maser, note that "for the third epoch, now in its formative stage, collaboration and cooperation among all affected stakeholders and incentive-based methods of policy implementation are promoted as the preferred approaches for both philosophical and instrumental reasons".

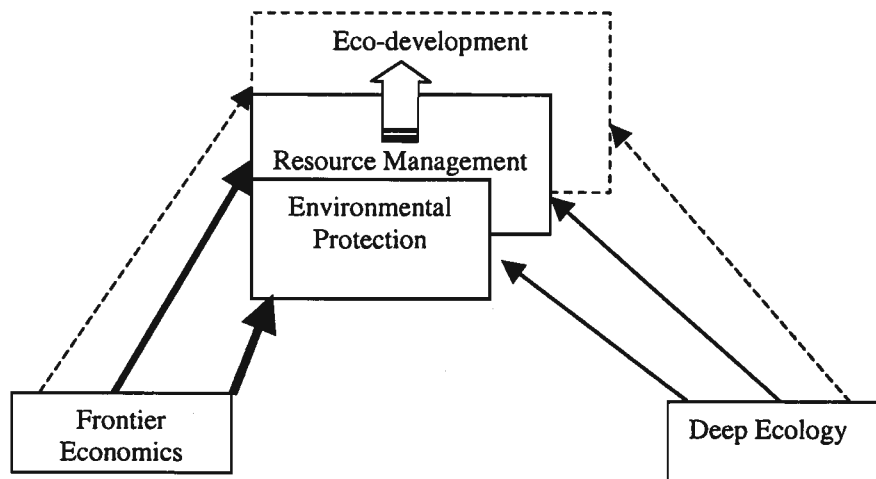
However, as previously noted, the world of practice is not standing still and is in many instances leading the way, well ahead of the theorists in attempts to transform environmental (sustainability) planning endeavours into this third epoch (Mazmanian and Kraft, 1999). In many such circumstances this is leading local and regional communities into taking matters into their own hands as they seek true cooperative partnerships for landscape management. These contentions will be tested in the circumstances of the Logan-Albert case study.

Mazmanian and Kraft's schema is not too dissimilar to that identified earlier by Low Choy and McEachan (1996) who were attempting to provide a context for the LA21 style of planning that Johnstone Shire Council¹ was attempting at that time together with other environmental planning and management initiatives. Seeking to incorporate the Council's local version of a LA21 plan into their statutory planning instruments, the contextual model which sought to examine the changing forms of planning at the local government level, comprised:

1. *Recording Phase* - described as first generation planning characterised by an absence of corporate planning and land use planning. It was dominated by a need to 'record the existing situation' without consideration of future options and strategies. It was noted that this phase lacked any form of vision for the planning organisation or the general community;
2. *Regulation Phase* - second generation planning characterised by a regulatory approach that sought to respond to development pressures by concentrating on impact management for certain types of developments. Land use planning was dominated by a 'command and control' approach with separate processes for considering environmental impact. There was also an over-reliance on scientifically derived benchmarks without acceptable community input. Public participation in the whole planning and management process was minimal;
3. *Response Phase* - this generation of planning seeks to embrace holistic and coordinated approaches that incorporate maximum stakeholder involvement - "a triad of the community, the corporate sector and decision-makers". It attempts to reappraise and develop new base standards, processes and outcomes.

¹ Johnstone Shire is a local authority in Far North Queensland situated between the two World Heritage areas of the Great Barrier Reef and the Wet Tropics. Johnstone Shire was the Australian case study for ICLEIs Model Communities Program for trailing and evaluating the application of LA21 sustainable development planning throughout the world.

In terms of evolving paradigms of environmental management in development, Colby (1991) has identified five fundamental paradigms, namely: 'frontier economics'; 'deep ecology'; 'environmental protection'; 'resource management'; and 'eco-development'. Colby (1991: 193) has noted that "each perceives different evidence, imperatives, and problems, and prescribes different solutions, strategies, technologies, roles for economics sectors, culture, governments, and ethics etc. Each actually encompasses several schools of thought, not always in complete agreement, and there are also areas of overlap". Figure 6.1 graphically depicts the nature of the evolutionary relationships between Colby's five paradigms.



Source: Colby, 1991

Figure 6.1: Evolution of Environment-Development Paradigms

Colby (1991) explains his conceptual diagram in term of its systematic and non-linear relationships. His vertical scale represents the progression of paradigms over time going up the scale - the horizontal scale indicates that the upper three paradigms are on a different spectrum between the diametrically opposed frontier economics and deep ecology paradigms. The size of the boxes signifies the degree of inclusiveness or integration of social, ecological and economic systems in the definition of development and organisation of society. The dashed lines indicate a hypothesised future.

Colby (1991: 209) acknowledges that these five paradigms are not separate and that some fluidity exists between them. He concludes, "no single approach has the best answer to every type of environmental management or development problem. As newer paradigms evolve, they incorporate much of the older ones"

All three schemas indicate a similar trend that strongly suggest a move away from rigid and prescriptive approaches to planning to more flexible and publicly and scientifically informed

planning and management arrangements. They also consistently demonstrate an evolving form of environmental planning characterised by an integrated and more comprehensive approach utilising a greater degree of public input and one clearly focused on the implementation issues. Positive signs of increasing attempts at cooperative management arrangements in an improved open decision-making environment are evident. The schemas also confirm the previously identified trend towards attempts to achieve sustainable outcomes at the strategic and regional scale.

However, the trends associated with Mazmanian and Kraft's (1999) three epoch framework, especially those acknowledged by their third epoch, are the most consistent with the overall evolving trends for environmental planning. This is particularly the case in regard to the holistic, integrated, collaborative and participatory nature of evolving forms of environmental planning and to its regional level influence and focus on implementation. For these reasons, the third epoch of their framework is utilised for the case study evaluation of the planning theme (see Chapter 9).

6.2 CONVERGENT APPROACHES TO LANDSCAPE MANAGEMENT

Mazmanian and Kraft acknowledge the inadequacies of the narrow focus provided by past single disciplinary based explanations of environmental management. They comment, "what history tells us is that solutions to most environmental problems have not resulted from a specific approach but have required input from a multiplicity of perspectives" (Mazmanian and Kraft, 1999: 7). In reviewing the contemporary nature of environmental and landscape management across a wide spectrum of planning and management endeavours, this study has sought to draw together a composite view from this diverse field. In doing so, it has become evident that similar themes have emerged in different fields simultaneously and to some extent independently. What is equally clear also is the high degree of convergence of these trends, both of a substantive and a procedural nature.

In planning terms, convergence of both substantive and procedural theory can be recognised in the literature related to a number of different fields and disciplines. Whilst the discussion above (namely Sections 5.3 and 5.4) has outlined these contemporary trends, Figure 6.2 provides a composite visual overview of this convergence of thought and potential practice.

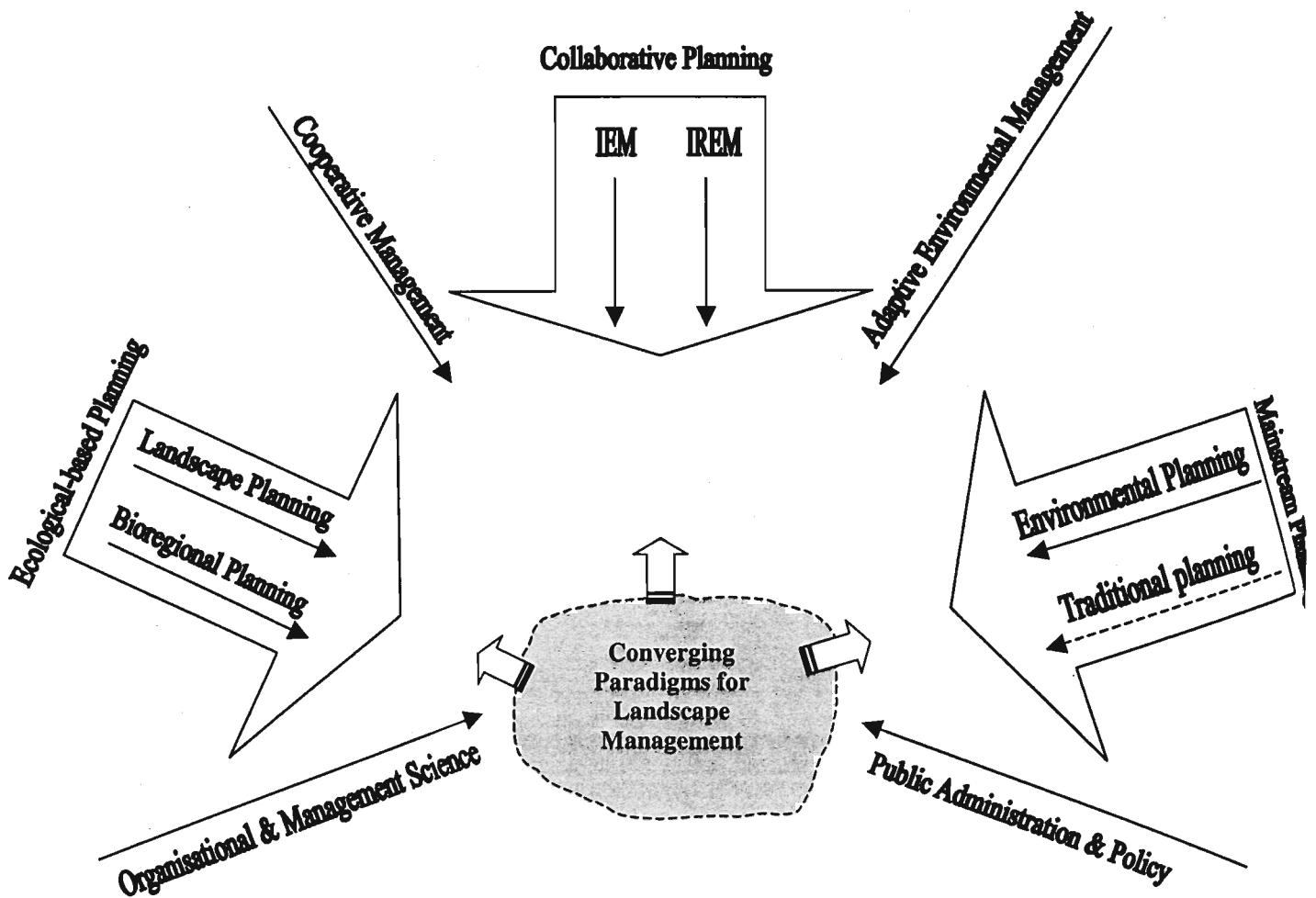


Figure 6.2: Converging Paradigms of Landscape Management

The term 'integrated environmental management' (IEM) has been coined to encompass a regional, holistic and goal-oriented approach to environmental management that addresses interconnections through a strategic approach. In this regard it is similar to ecosystem management, integrated resource management, integrated catchment management, watershed management, and integrated resource and environmental management (IREM), (Margerum and Born, 1995; Born and Sonzogni, 1995; Margerum, 1997; Margerum, 1999d; Margerum and Born, 2000). These authors further acknowledge that IEM is based on the concept of the environmental region, such as catchments, bioregions or similar 'holistic' concepts.

Margerum (1997: 459) considers that "integrated approaches are emerging as the new paradigm in environmental planning and management (as they endeavour) to incorporate a wider array of issues and stakeholders". He has subsequently noted that there are four substantive elements to the emerging field of integrated management, including: a holistic approach; goal-orientated; acknowledgment of interconnections in physical and social systems; and a strategic approach

with a focus on implementation (Margerum, 1999d). These attributes demonstrate a convergence of contemporary and emergent paradigms from a diverse range of planning and related disciplines.

Earlier, Margerum and Born (1995) had defined the substantive elements of IEM as including the four themes of 'inclusive'; 'interconnections'; 'common goals'; and 'reduction'. In procedural terms, they advocated that "the key operational component to achieving integration is interaction throughout a process of planned change divided into two forms: the general public; and with more directly affected stakeholders" (Margerum and Born, 1995: 377). Whilst noting that the procedural aspects were not that well developed, Margerum (1997) did identify coordination as the primary process or operational theme. An additional procedural aspect concerned the participation of the widest range of stakeholders including agencies, local government, NGOs, resource users, and the public-at-large. Whilst there are by-and-large reasonable degrees of consensus on these substantive issues, there are still varying opinions on, and approaches to, the procedural dimensions.

The convergent approaches to landscape management are further demonstrated by some contextual elements, namely the substantive and procedural aspects of contemporary planning theory, and by the emergent forms and attributes of cooperative management. These issues are discussed below.

6.3 TOWARDS A PLANNING PARADIGM SHIFT

The discussion in the previous chapter has demonstrated that planning can be used for the effective management of change - ie both nature induced and human induced change that constantly characterises the highly dynamic environmental systems that constitute our landscapes. Planning's relevance to contemporary environmental and landscape management comes from its offer of a proven process, methodologies and techniques with which to address the range of contemporary environmental management issues and problems. McDonald (1996) concurs, maintaining that the substance and method of planning which dominates the sustainable development literature makes it one of the essential tools for achieving sustainable development.

However, before it can make any significant contributions in this regard, a number of preconditions must be met. In the first instance, the planning profession must define and embrace the principles of environmental sustainability as it applies to the nature of future planning endeavours. Noting a strong correlation between the integrating nature of sustainable development and the purpose of planning, McDonald (1996) considers that whilst sustainable

development is a complex principle, it is similar to other traditional planning principles including: accessibility, amenity and equity. McDonald (1996: 235) concludes, "it is inevitable that it will take its place alongside the other megagoals of planning". Campbell (1996) believes that by redefining this currently vague and flawed concept, that sustainability has utility from a planning perspective, in a number of ways, viz: it can provide a long term goal of a social-environment in balance; it can be a unifying concept bringing together many different environmental concerns under one overarching value; it can define a set of social values and articulate how society values the economy, the environment and equality; and in theory it can be used to measure where we are in terms of achieving sustainability.

An insight into the emergent trends likely to be associated with the evolving forms of environmental planning have been well articulated by Selman (1999) and outlined in Section 5.3.5 (see especially Table 5.6). Selman's indicative trends provide a useful set of indicators of evolving forms of environmental planning within a sustainable development paradigm that can be utilised in subsequent evaluations of the case study.

Pursuant to these achievements, a number of substantive aspects must be taken up and incorporated into future planning practice. Additionally, a number of procedural initiatives must also be acted upon to provide for a more enlightened planning approach better suited to the requirements of contemporary society. The nature of these substantive and procedural elements is discussed below.

6.3.1 Imperatives for Enhancement

In the recent past, mainstream traditional planning has received a considerable degree of criticism ranging from its inability to address the range of contemporary environmental management challenges to its unresponsive nature. To Evans and Rydin (1997: 68) "the profession of planning is at a turning point". It is already evident that traditional planning paradigms are incapable of responding to these new sets of challenges. A fresh approach is required. Previous discussion has concluded that any new approach should seek to forge new partnerships between the public, private and community sectors and embrace a more cooperative approach to planning, management and implementation. Future planning processes will need to be more holistic, inclusive and integrative in order to comprehensively address the complete array of interconnected issues and elements of change associated with the future management of our landscapes.

Planning will need to develop a greater understanding of, and sensitivity to, the nature of changes affecting our communities. The planning process will have to incorporate the capability to closely monitor these changes in order to deliver timely proactive strategies to

manage the anticipated changes, rather than just be responsive to changes. There will be a need for a greater degree of flexibility with less reliance on former regulatory 'command and control' style approaches.

The *raison d'etre* for planning as a human activity is the management of change in a manner that leads society towards an agreed set of goals and objectives - a vision, which must now embrace and be underpinned by the goal of sustainability. Planning offers society a logical and structured approach to charting out alternative courses to our common future and to assisting in the selection of preferred paths to that future. Specifically, the emergent field of environmental planning offers an opportunity to embrace the changes necessary to define any required paradigm shifts, as well as the scope and priorities for planning in this new millennium.

The question of how much intervention should there be into this process of change, ie how much planning, is largely a philosophical issue, and it is both a political question and decision that ultimately the community must decide. In this political context, planning can facilitate the decision-making process. Planning can provide a proactive management framework for environmental management to occur within. This can be applicable at all levels of government. It can pursue multiple objectives, be integrating and provide coordination of actions and activities. However, it will be necessary to define how much of a shift in the traditional paradigm will be required in order to pursue and facilitate the required enhancement.

6.3.2 The Quantum of Change

Evans and Rydin (1997: 68) consider that the new environmental agenda of sustainability will require "new approaches, new ways of working and a new politics" - particularly in relation to the future role of the professional in society and their relationship with the general community. Others have commented that many planners believe that sustainable development is what good planning is all about (McDonald, 1996).

On the question of a shift in the planning paradigm to accommodate the contemporary demands on planning, we have seen that there is a considerable range and breadth of opinion. Whilst the generic direction of this shift have been well articulated, the precise quantum of this shift has received little or scant attention. Stein and Harper have however raised their concerns about the degree of the shift that some commentators have called for. Not-with-standing, they do acknowledge that "planning theory is still struggling to respond to these (*environmental sustainability*) claims and to incorporate environmental concerns. The traditional technocratic rational planning approach is not only clearly inadequate, but exacerbates the problem" (Stein and Harper, 1996: 80).

Arguing against a radical paradigm swing towards the "deep ecology" or "bio-egalitarian" approaches, Stein and Harper (1996: 80) present a case for a "more moderate neo-pragmatic/incremental approach, reflectively chosen principles, a normative ethical basis for justification, and an authentic moral vision". They contend that it is not necessary to jettison traditional morality, nor is a paradigm shift really necessary in order to provide a sustainable environmental basis for planning. Instead, what is required is "a reaffirmation of our deeply entrenched moral values, values that may have been temporarily lost by many in today's alienated and impoverished society" (Stein and Harper, 1996: 97). In support of their position they cite the following values: respect for individuals in the context of community; respect for dialogue and for reason; more equitable distribution of political and economic power; virtues of moderation, humility and willingness to change one's mind; and concern for the environment (for our well-being and for its intrinsic value).

Stein and Harper also maintain that planning can only become environmentally sustainable if significant changes are made to the way that decisions are made. They call for an approach that is inclusive and communicative, and one that strives for overlapping consensus of all stakeholders.

McDonald (1996: 229) has articulated a set of substantive and process criteria for the definition of planning systems operating within the scope of sustainable development. The substantive criteria embrace ecological and social sustainability and seek to have planning activity secure: (1) ecological sustainability through establishing the regenerative capacity of renewable resources; the substitutability of non-renewable resources by renewable resources; waste assimilation within the capacity of natural systems; and the maintenance of biodiversity; plus (2) socioeconomic sustainability through meeting basic human needs; and promoting equitable opportunities for all citizens. The process criteria that planning needs to incorporate include: (3) political criteria involving effective participation in decision making; and (4) methodological criteria encouraging an integrative approach to address all of the substantive criteria; and an adaptive management culture to learn from, and address uncertainties.

The preceding discussion of the contemporary environmental and associated planning literature has provided insight into an emergent model for future environmental planning efforts. It has been suggested that key developments should embrace the following substantive and procedural aspects.

6.3.3 Substantive Issues

These substantive issues of a philosophical nature provide a range of basic principles to draw upon and assist in the definition of the nature, scope and purpose of environmental and landscape planning. As previously noted, the overarching and highest priority philosophical principles that future planning must embrace, relate to principles of sustainable development. McDonald (1996) argues that this must ensure that plans address ecological issues.

In summary, the principal substantive issues that must be incorporated into Selman's (1999) 'environmental modernisation and sustainability transition', include the following framework principals:

1. **Wise use of natural resources:** addressed from both a natural as well as a social science perspective (Selman 2000).
2. **Acknowledging the environment's intrinsic (ecological) limits:** respecting capacities and acknowledging environmental thresholds for human activities (ie Carrying Capacities). These constraints can also be represented as 'limits to acceptable change' (LAC). This approach is fundamentally a change from the traditional planning approach of seeking a compromise through a mediated balance between competing uses. Healey refers to the language of limits replacing that of trade-offs. She notes that the ecological approach has "pushed into policy debate the language of systemic limits to the capacity of the biospheric systems to absorb exploitation, depletion and pollution" (Healey, 1997: 179). Requiring a moral attitude in the face of scientific uncertainty, it links naturally to the concept of the precautionary principle in terms of policy options for future management.
3. **The Precautionary Principle:** Selman, (2000) points to the challenges of dealing with the enormous uncertainty surrounding complex environmental issues. This will in his opinion place reliance on the precautionary principle as a way ahead. McDonald (1996) however, sees severe difficulties for planners in the application of the precautionary principle with respect to private lands and in circumstances where the onus of proof is placed on private landowners and developers if doubts exist concerning environmental damage.
4. **Diversity:** including biodiversity as well as diversity of lifestyles, residential modes; employment opportunities; recreational opportunities, social opportunities etc, must be incorporated as an essential element of sustainable options.
5. **Equity:** this principal seeks to address the uneven distribution of costs and benefits in time, space and society and acknowledges the challenges of social and intergenerational equity.
6. **Livability:** this principal acknowledges the emergent emphasis on 'quality-of-life' as opposed to purely 'green' issues. McDonald (1996: 234) has argued that "the concept of

design with nature needs to be enriched, with greater attention paid to environmental quality issues". These quality of life issues embrace the need for a safe, stable, secure and livable environment within the notions of environmental quality and landscape quality.

6.3.4 Procedural Enhancement

The emergent procedural principles that should provide the foundations for an enhanced environmental planning paradigm were previously canvassed in Section 5.3.3c. Essentially the bureaucratic and administrative planning and development control systems which guide political decision making and actions must be made environmentally friendly as suggested by McDonald (1996) in his call for improved decision-making processes and horizontal coordination. Similar advocacy came from Selman (1999 and 2000) when he argued for a holistic approach based on an integrated planning model. This approach was seen as involving strong elements of cooperation including a greater reliance on cooperative efforts in both planning and management (Faludi, 1987; Selman, 1999). This included greater attempts to involve meaningful participation of the community in planning and decision making.

Of particular significance is the recognition for a flexible and an adaptable planning approach capable of responding to rapid change (Faludi, 1987; Briassoulis, 1989; Selman, 1999; Selman, 2000). These emergent environmental planning paradigms provide some support to the previous call for analytical approaches supported by a factual basis - ones that are required to address future environmental challenges.

Selman (2000) however refers to a 'policy-implementation gap' created by: inadequate initial policy formulation; insufficient skills, time, money or effort devoted to policy implementation; or imperfect communication between policy-makers and field staff. The nature and extent of this 'gap' have been discussed in Sections 5.3.4 b&c. Briassoulis (1989: 389) supports this conclusion and also notes that "without participation, no steps in the planning process can be executed successfully and effectively". On a more specific note, Selman (1999: 156) claims that "the missing link in most models of 'rational' planning has too often been that of monitoring/review". He sees the introduction of Green Audits, particularly the adoption of the State of Environment reports (SoER) as a useful tool to redress this omission, and as "an early stage in a series of steps to be undertaken in the course of local authority 'greening'".

In a similar sense, other 'loose ends' of environmental planning are now being drawn into the environmental planning process proper, ie an integrated approach to landscape management. In particular, this includes the environmental assessment process, once firmly associated with the decision-making end and now being increasingly incorporated into the plan making phase

(Therivel et al, 1992; Therivel, 1995; Selman, 1999). Evolving integrated environmental planning systems will be required to incorporate a range of previously single management initiatives including: Environmental Audits (EAs); State of the Environment Reports (SoERs); Environmental Impact Assessments (EIAs); environmental visionary statements; Local Conservation Strategies such as LA21 Strategies; and other voluntary community planning efforts such as those incorporated into local ICM Plans.

Selman refers to a 'convergence interpretation' of an apparent shift to a consensus position over key environmental problems accompanied by a modernised response that integrates statutory, non-statutory and voluntary planning instruments. He concludes, "the primary lesson from thirty years' experience is that such a complex problem domain creates tremendous technical, bureaucratic and political difficulties for concerted action (*and*) there is still a paucity of evidence on which to judge implementation success" (Selman, 1999: 169).

6.3.5 The Next Step

The potential paradigm shifts that have been observed in planning also suggest that the role and responsibilities of planners is changing, particularly in practice, and some might argue significantly. Section 5.2 has identified a range of emergent potential roles for planners in the ongoing enhancement of professional practice within the sustainable development debate embracing: the mediator; negotiator; translator; facilitator; coordinator; information provider; interpreter; technician-administrator; mobiliser; entrepreneur; advocate and guerrilla; adviser; and communicator. This suggests that future planners will need to operate in non-partisanship and apolitical modes and display a range of essential characteristics and attributes namely: multidisciplinary skills; scientific and technical skills; negotiation, mediation and facilitation skills; creative skills; entrepreneurial skills; and politically savvy. Thus it becomes evident that our educational institutions and their education programs must be designed to produce a new generation of environmental planners capable of effecting these changes to the profession, the bureaucracies, the community and the planning systems through which decisions are made. Many of these initiatives can be expected to have implications for planning education - these issues are discussed in Section 9.3.2b and Chapter 10.

On a pragmatic note, McDonald's (1996) concerns for the critical scale problem associated with achieving vertical integration for sustainable development have previously been noted. He saw the solution to defining the most appropriate boundary of a sustainable system as involving consideration of the relevance of the region (and catchment) as a spatial unit of appropriate thinking and management. It also included consideration of how existing planning processes and decision-making systems can be effectively transferred to this scale to address issues of regional significance.

The review of emergent planning and associated paradigms and evolving practices clearly supports the calls for fundamental changes in environmental management towards analytical approaches supported by factual bases - ie a scientific approach. Gordon (1999: 44) believes that "attempts to revive the old paradigm will fail and be marginalised. Ecosystem management and adaptive management are emerging as possible new approaches, particularly on public lands". He continues, "change is now not only necessary but unavoidable this new natural resource management paradigm signals changes in our basic worldview, changes in the techniques we employ, changes in what constitutes effective leadership, and changes in how we see and make policy". Whilst emphasising public land management, Gordon's comments are equally relevant to all landscapes.

Mazmanian and Kraft (1999: 7/8) note that "solutions to most environmental problems have evolved through an organic process of trial, error, and social learning (*and*) there has been a progression in the way people have framed and dealt with environmental issues". They consider that in order to anticipate the future, one must understand this progression. Future 'scientific' approaches will also need to address the definition of what constitutes science above and beyond the traditional forms of basic and applied science. Emerging from recent literature are notions of 'civic science' (Selman 1996). This concept goes beyond the conventional forms to embrace citizen science (derived from non public sources), including local and indigenous knowledge which as previously noted, goes to the very heart of greater empowerment of civil society (Evans and Rydin, 1997; Healey, 1997; Dovers, 2000). Selman notes that scientific evidence on the environment is highly contested and that we do not always have reliable measures and conclusive evidence. In terms of the "disorganising discourse" associated with sustainability planning, he sees the fundamental problem related to the relationship between the expert and the laity. Selman believes that the necessary and informed involvement of lay people "entails an adaptive approach to learning and listening by both laity and experts. Both must be willing to learn from each other's knowledge" (Selman, 1996: 59). Embracing a civic science approach entails a true participatory process involving learning, and structural adjustments in the management of science and in the relationship between science policy and political decision-making. It will also entail the use of a bargaining process instead of the traditional forms of expert led multi-disciplinary approaches. Thus the principal factors of influence become: the political context; the relative power of the players; and the negotiation process, acted out in a social learning framework. Of paramount importance in this process is the need for the community to have access to sound environmental information and for them to be incorporated into networks of influence.

In the light of the emergence of these convergent thoughts that are exemplified by the previously noted comments of McDonald (1996), Gordon (1999), Selman (1996, 1999 & 2000), and Mazmanian and Kraft (1999), two specific management initiatives are important to the ongoing discussion associated with this study. They are the ecosystems-base approach to environmental management and the increasingly recognition of the applicability of adaptive environmental management approaches to mainstream planning and management practices. These two important themes are developed below.

6.4 ECOSYSTEM-BASED MANAGEMENT

In reference to the disappointing lessons from experience in regional planning, watershed planning, regionalism and bioregionalism, Slocombe (1998a: 32/33) argues "that good intentions are not enough; politics and bureaucracy can defeat almost anything; special supernumerary government agencies do not last and usually accomplish little. People think locally and personally; values, perceptions, and participation are important (*and of environmental planning*) regulatory and administrative add-ons are not enough; species-specific and site-specific approaches will only take us so far, and are undermined by the absence of wider ecosystem-based management; a diversity of approaches is good but a theory (or goal or concept) to pull it together increases effectiveness".

Slocombe notes the increasing significance of ecosystem-based management resulting from problems of fragmented management and the growing interest in synthetic management. He defines ecosystem-based management as "the process of managing and understanding the interaction of the biophysical and socioeconomic environments within a self-similar, self-maintaining regional or larger system (*it*) involves finding institutional and administrative, as well as scientific, ways of managing *whole* ecosystems instead of often small, arbitrary management units that are found almost everywhere" (Slocombe, 1998a: 31). He identifies the main barriers to ecosystem-based management as institutional territoriality and complacency-weak goals. Thus it goes well beyond the strict management of the physical system.

Sharing this view of ecosystem management as a social movement seeking a new philosophical basis for resource management, Cortner and Moote (1999) acknowledge that it has a broader focus that goes beyond science to embrace both social and political change. They argue that the achievement of ecological sustainability will be dependent upon the robustness of the governance processes, and the degree of political will to bring about the necessary democratic and ecological changes. Earlier, Moote et al (1994) had identified the five central components to ecosystem management as: socially defined goals and management objectives; integrated and

holistic science; broad spatial and temporal scales; collaborative decision building; and adaptable institutions.

Slocombe acknowledges a number of roots to ecosystem-based management, namely, the ecosystem approach developed in a number of disciplines during the 1960s and 1970s; the earlier and more general system approaches; and the regional, bioregional, watershed and integrated resource management approaches. He also sees ecosystem-based management with derivatives from "challenges and initiatives in protected areas, regional and environmental planning" (Slocombe, 1998a: 32).

However, Slocombe acknowledges a number of distinctions between ecosystem-based management and other similar field of endeavours. In the first instance and borrowed from ecosystem management, ecosystem-based management acknowledges that it is the activities within the ecosystem that can be managed from an ecological perspective. Secondly, from traditional regional planning, ecosystem-based management is integrative and has a transdisciplinary focus. Lastly, ecosystem-based management usually deals with larger spatial units (eg regions), that are complex, interconnected, dynamic systems characterised by uncertainty and difficulty in prediction.

Ecosystem-based management is based on an ecosystem approach which: describes parts, systems, environments and their interactions; is holistic, comprehensive, transdisciplinary; includes people and their activities in the ecosystem; describes system dynamics; defines the ecosystem naturally;

looks at different levels/scales of system structure, process and function; recognises goals and taking an active, management orientation; incorporates actor-system dynamics and institutional factors in the analysis; uses an anticipatory, flexible, research and planning process; entails an implicit or explicit ethics of quality, well-being, and integrity; and recognises systemic limits to action - defining and seeking sustainability, (Slocombe, 1998a: 32).

Slocombe (1998a) identifies the following obstacles to effective ecosystem-based management: fragmented and specialised administration and research; competition within and between agencies and governments; and arbitrary, politically defined management units. He argues that the latter is characterised by structural and functional orientations; short term, local and self-interested politics and economic determinism; obscure terms and goals such as sustainability and integrity; top-down planning and management processes; and poor use of information.

He has advanced a number of lessons for ecosystem-based management that are summarised as three principal themes for ecosystem-based management in Table 6.1. Interestingly, Slocombe

acknowledges that a watershed approach may not always be the most appropriate management unit, noting that a geopolitical or bioregional approach may be more appropriate under some circumstances. He also argues that we should not always be accepting of claims that it is not possible to replace existing artificial, arbitrary administrative units with ecosystem-based units.

Table 6.1: Practical Lessons for Ecosystem-based Management

Defining management unit	Developing understanding	Creating planning and management frameworks
<ul style="list-style-type: none"> • Use meaningful units • Be flexible; use multiple ways of defining units • Build on, but do not be constrained by existing units • Ensure operational, in at least some way • Maintain higher administrative levels' interest in the lower and newer units by communication, involvement 	<ul style="list-style-type: none"> • Describe and interpret many dimensions of the ecosystem • Make information available within and outside ecosystem • Use local and traditional knowledge • Be practical; when resources are limited focus on understanding that would make a difference • Use all available information; analyse, map, simulate, discuss etc 	<ul style="list-style-type: none"> • Keep it simple, try not to layer new levels and organisations onto existing ones • Get top-level commitment and leadership • Implement close to the ground and ensure there are some immediate, visible benefits and products • Focus on management processes, information flow, and planning and target setting • Maintain flexibility, and ensure reviews to foster adaptation

(Source: Slocombe, 1998a: 33)

Slocombe has suggested that an appropriate combination of prescriptive and descriptive tools and activities, and substance-oriented and process-oriented tools are necessary for effective ecosystem-based management. To this end, he documents the following substantive and process tools.

Table 6.2: Comparison of Substantive Knowledge-oriented Tools and Process Planning-oriented Tools for Ecosystem-based Management

Substantive Knowledge-oriented Tools	Process Planning-oriented Tools
<ul style="list-style-type: none"> • Multidisciplinary studies with integrative simulation and GIS methods • Comprehensive studies; using theory and detailed knowledge • Innovative approaches to evaluation, definition of criteria • Ongoing, multilevel monitoring • Use expert and public knowledge to develop hypotheses and models • Incorporate backcasting, scenarios 	<ul style="list-style-type: none"> • Facilitated, representative, scoping workshops and ongoing consultation • Incentives and methods for institutional cooperation • Consensus goal definition and related planning for their achievement • Newsletters, consultation, to disseminate information • Use to test, revise results, process • Use visioning, scenario development exercises

(Source: Slocombe, 1998a: 37)

Slocombe (1998a) emphasises the point that he considers ecosystem-based management to be 'adaptive management', pursuing conservation and not preservation goals. He also sees spatial and temporal interactions and patterns central to ecosystem-based management, with strong links to the management of particular places and their problems, leading him to suggest that it may be a crucial means of implementing sustainable development.

He suggest that the greatest challenge for future applications of ecosystem-based management approaches may be in the identification of appropriate goals because "ecosystem-based management cannot be either science or planning process alone, lest it maintain the status quo of the priorities and problems within a new framework, and because existing planning and management goals have not been good enough" (Slocombe, 1998a: 37). In terms of what may constitute a suitable goal/s, (he advocates for a suite of goals because ecosystem-based management is not simple, quick or the same everywhere), Slocombe presents a series of criteria for devising such goals and objectives. These criteria requires that ecosystem-based management should: imply and reflect specific values and limits (normative); reflect 'higher' values and ethical principles and rules (principled); reflect the wide range of interests, goals and objectives that exist (integrative); work with, not artificially reduce, complexity (complex); accept and recognise the inevitability of change (dynamics); synthesise a wide range of information and knowledge (transdisciplinary); be applicable to a wide range of ecosystem types and conditions (applicable); involve people and actors (participatory); be explainable and operationalisable in a consistent way to different people and groups (understandable); and be inherently tentative and evolving as conditions and knowledge change (adaptive), (Slocombe, 1998a: 38 and 1998b: 484).

The intent of these criteria are fundamental to the planning philosophy and approach that is central to this thesis, and whilst it may be an issue in some more traditional planning quarters, Slocombe's recommendations are entirely consistent with the planning approach adopted in the study. The criteria and principles that underpin Slocombe's ecosystem-based management approach will be examined in relation to the evaluation of the Logan-Albert case study review in Chapters 8 and 9.

6.5 ADAPTIVE ENVIRONMENTAL MANAGEMENT

The literature demonstrates increasing recognition of the potential benefits from adopting more flexible approaches to planning, including the statutory context for contemporary practice. To this end there have been increasing calls for the embrace of adaptive forms of environmental (sustainability) planning based on recently evolving approaches of adaptive management, (Briassoulis, 1989; Campbell, 1996; McDonald 1996; Slocombe, 1998a&b; Selman, 1999;

Hooper et al, 1999; Margerum, 1999a; Gordon, 1999; Forester 1999; Dovers, 2000; and Selman, 2000).

Adaptive management has been described as an integrated, multidisciplinary method for natural resource management (Gunderson, 1999). It is defined as "treating economic uses of nature as experiments, so that we learn efficiently from experience, (Lessard, quoting Lee, 1998: 81). It involves a continuous process of action-based planning, monitoring, researching and adjusting with the aim of improving implementation in order to achieve the objectives² (Holling, 1978; Walters, 1986; Briassoulis 1989; Gunderson et al, 1995; Lessard, 1998; Johnson et al, 1999; Brunckhorst, 2000). It draws its theoretical base largely from works by Holling (1978) and co-workers, by acknowledging that the natural systems being managed are in a constant state of change, and require human responses of adjustment and conformity. As Gunderson (1999: 35) notes "there is and always will be uncertainty and unpredictability in managed ecosystems, both as humans experience new situations and as these systems change through management. Surprise is inevitable.". This led Gunderson to reconfirm the need for an active learning approach to account for the uncertainty. This is justified by Lessard (1998: 87) when he concludes that "since we will never have perfect information, we will continually learn from the response of ecosystems to implementation of our decisions. Planning for and adapting to surprise will provide an actionary rather than a reactionary basis for more informed decisions".

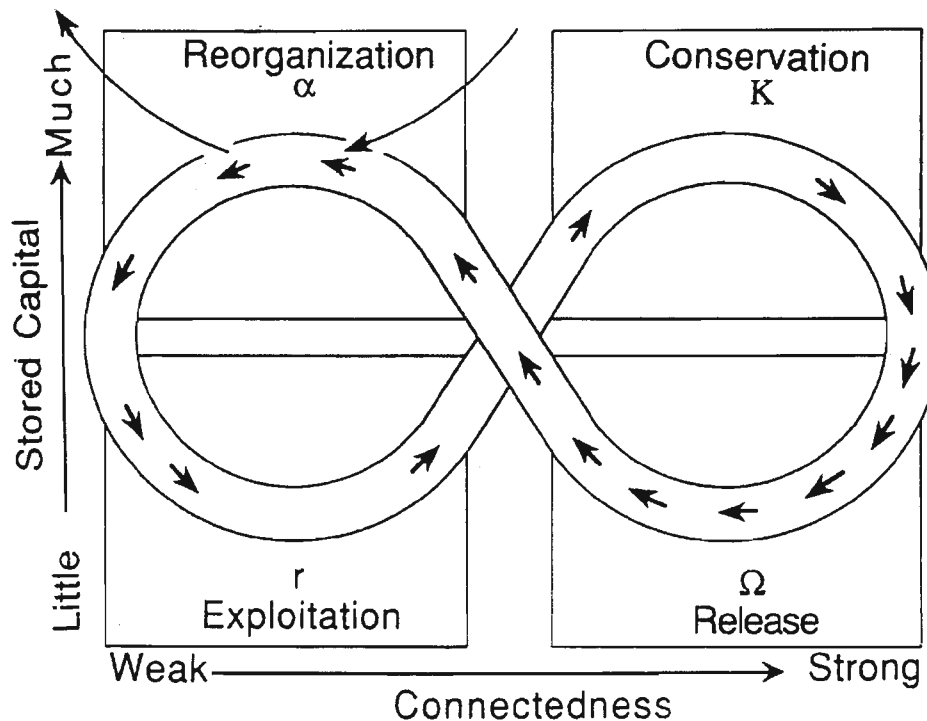
Walters (1986: 8) sums up the adaptive management approach thus, "(it) begins with the central tenet that management involves a continuing learning process that cannot conveniently be separated into functions like 'research' and 'ongoing regulatory activities' and probably never converges to a state of blissful equilibrium involving full knowledge and optimum productivity". He considers that adaptive management practice should address four basic issues, namely:

1. limiting the management problem to consideration of explicit and hidden objectives, practical constraints on action, and the breadth of factors considered in policy analysis;
2. representing the existing understanding of managed systems in ways that errors can be detected and used as a basis for further learning;
3. representing uncertainty and its propagation through time in relation to management actions; and
4. designing balanced policies that provide for continuing resource production while simultaneously probing for better understanding and untested opportunity.

² This approach has previously been discussed in Section 2.2.1 and is the dominant research paradigm and approach that has been adopted for the examination of the Logan-Albert case study.

The theoretical underpinning for the adaptive management approach comes from works by Holling and other ecologists which led to the development of a conceptual, heuristic model which is used to explain the temporal dynamics of ecosystems (see Holling, 1978; Walters, 1986). This model is illustrated in Figure 6.3. Ecosystem succession occurs over the two phases of *exploitation* (rapid colonisation) and *conservation* (slow accumulation and storage of energy). In the other two phases, the accumulated biomass and nutrients become increasingly susceptible to disturbance (overconnected) to the point when they are suddenly released by agents - the *release*. The fourth phase is *reorganisation* and involves processes coming into play to reorder the system for the next phase of exploitation.

The principal attributes of the phases of adaptive ecological systems upon which the adaptive management model is derived are set out in Table 6.3.



After Holling, 1978

Figure 6.3: Ecosystem Succession Model

Table 6.3: Adaptive (Ecological) Systems - Attributes and Correspondence

Adaptive (Ecological) Systems Phase	Phase Behaviour	General Phase Characteristics	Equivalent Public Policy Evolution Phase	Kondratieff's Long Wave Economic Cycles
Exploitation (equivalent to entrepreneurial market)	r-strategist: rapid growth in an arena of scramble competition leading to stability	rapid colonisation of recently disturbed areas; relative period of ordered and predictable change	Implementation of policy	Top of the Up Curve
Conservation (equivalent to bureaucratic hierarchy)	K-strategist: slower growth rates and survival in an arena of exclusive competition leading to increasing fragility	the slow accumulation and storage of energy and material are emphasised; increasing connectedness, stability and capital; relative period of ordered and predictable change	Policy maturity - becomes increasingly conservative over time	Top of the Down curve
Release	<i>Omega</i> phase: transition from growth to system collapse	'creative destruction' phase; very rapid; triggered by instability; relative period of disordered and difficult-to-predictable change	Recognition of existing policy failure	Bottom of the Down curve
Reorganisation (Economic recession or social transformation)	<i>Alpha</i> phase: transition from system renewal to rapid growth	processes come into play to reorder the system for the next phase of exploitation - equivalent to the process of innovation and restructuring in industry or in a society; relative period of disordered and difficult-to-predictable change	Rapid address of policy crisis by number of alternative response options	Bottom of the Up curve

(Based on Gunderson, 1999 and the Longwave and Social Cycles Resource Centre, 1995)

Table 6.3 summarises the essential characteristics of each discrete phase and then illustrates the correspondence between the phases to a similar cycle of policy development, implementation and evolution. Holling has used this model to provide some insight into his notions of sustainable development. He argues that the cycle of slow growth and production that triggers fast disturbance and renewal leads to the accumulation of natural capital, which is analogous to the process of *development*. The fast disturbance and renewal phase release capital and reorganises it for the re-establishment of the ecosystem cycle, which is analogous to the condition of *sustainability*. He summarises by noting that "sustainability is measured by some attributes of disturbance and renewal, and development is measured by some attributes of growth and production" (Holling, 1995:32).

The cyclic nature of this adaptive system raises the question whether there may be some form of relationship with other dynamic cyclic concepts of change. For example, is there a conceptual link between Holling's adaptive system model and Kondratieff's Long Wave Economic Cycles? (see Section 1.4.2a). Table 6.3 provides a preliminary recognition of approximate correspondence (or parallelism) with Kondratieff's Long Wave Economic Cycles. The latter judgement was made on the basis of similarity of distinguishing characteristics of the separate phases. It is not the purpose of this study to explore further this potential relationship, although it does provide a context for the subsequent conclusions that result from the deliberations of this chapter.

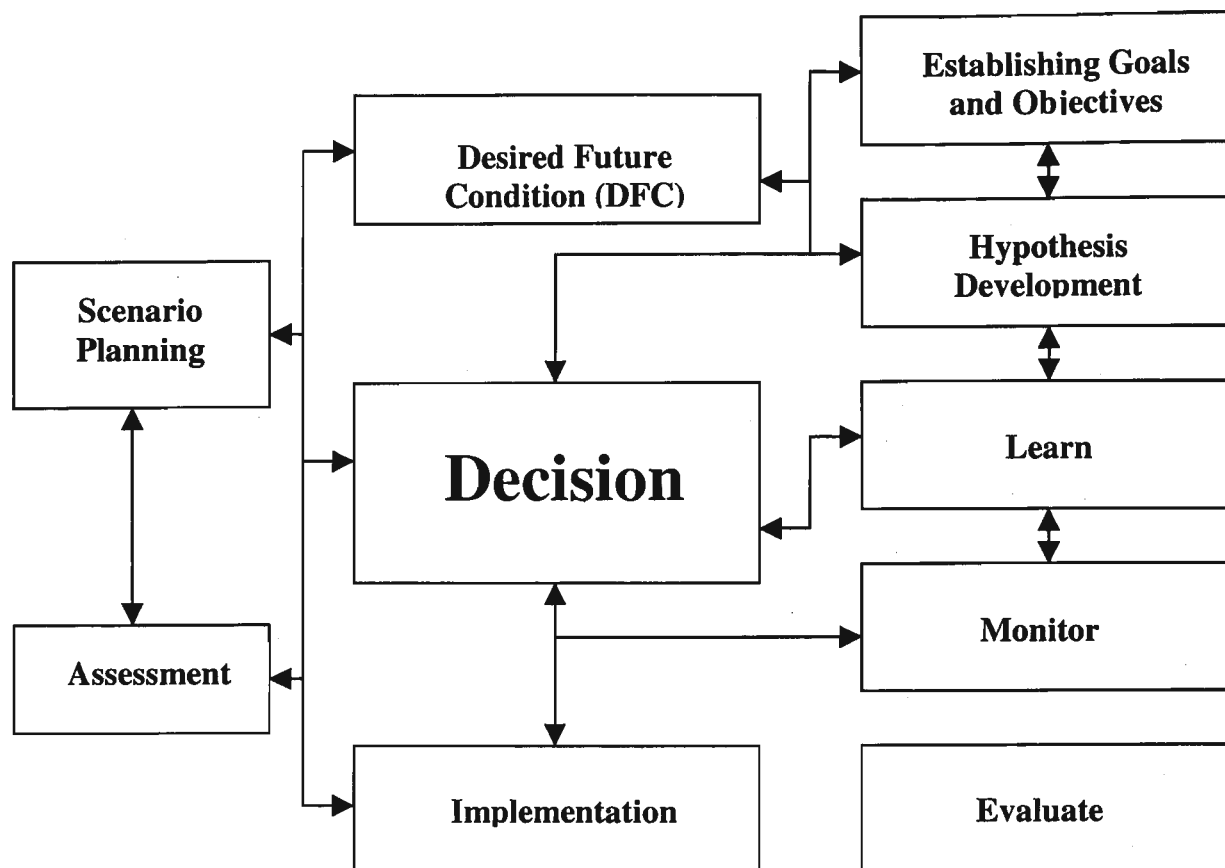
A framework for adaptive management is illustrated in Figure 6.4. The principal component of this framework is the 'Desired Future Condition' (DFC) of the ecosystem being managed, in terms of all of its biophysical and socioeconomic components. The DFC must describe the structure, composition and the dynamic functions of the ecosystem, and be derived in the public arena. This needs to lead to a "shared vision of the desired ecosystem condition, taking current social and ecological conditions into account and identifying ways in which all parties can contribute to achieving common ecosystem goals" (Lessard, 1998: 82, quoting IEMTF). Lessard also acknowledges that the other critical component of the framework involves the decisions upon which implementation to achieve the DFCs is undertaken. He argues that an adaptive strategy must provide for decisions that are informed; gain understanding, acceptance and support from a wide audience; recognise the uncertainty inherent in the decisions, and, are adjustable in the face of surprise. Lessard (1998) advocates the following key features that characterise the framework to include:

- *Public involvement throughout all components/tasks* - noting that this will need to move towards more cooperative and participatory modes, especially in policy development and decision-making;

- *Information management* - involves the establishment of infrastructure, including spatial and non-spatial databases, to support assessments, monitoring, evaluation and other activities;
- *Adaptable structure for adaptive management* - includes the organisation responsible for implementation. Requires a strategic (as opposed to a functional) operational approach.

Holling (1995) has provided an expanded view of these issues, noting that a strategic approach will require integrated not piecemeal policies that are flexible and adaptive as opposed to rigid and locked-in ones. It will also require the acceptance of management and planning for learning and not as an economic or social product. Monitoring will need to be designed as part of active intervention for better understanding leading to the identification of remedial responses. Holling argues for investments in eclectic science as opposed to controlled science. He also advocates that citizens should be fully involved in partnerships that build 'civic science'.

Dovers (2000: 15), quoting Dovers and Mobbs (1997) acknowledges that "the requirements of truly adaptive approaches are not trivial" and nominates the essential requirements to include "strong yet flexible statutory bases, political will, interdisciplinary and cross-sectoral views, participatory processes, and information-richness". Lessard (1998), quoting Lee, nominates the following preconditions for favorable institutional arrangements for adaptive management: there is a mandate to take action in the face of uncertainty; decision-makers were aware that they were experimenting; decision-makers care about improving outcomes over biological time scales; preservation of pristine environments is no longer an option, and human intervention cannot produce desired outcomes predictably; resources are sufficient to measure ecosystem-scale behaviour; theory, models and field methods are available to estimate and infer ecosystem-scale behaviour; hypotheses can be formulated; organisational culture encourages learning from experience; and there is sufficient stability to measure long-term outcomes institutional patience is essential.



after Lessard, 1998

Figure 6.4: An Adaptive Management Framework

The relationship between this approach and the traditional planning process is vague and inconclusive. The writings of the original and early advocates of adaptive management are silent on this issue and in fact make no specific reference to the planning process let alone the broader topic of planning, although they are focused on the policy design area, (see Holing, 1978; Walters, 1986). Lessard's diagrammatic representation of an adaptive management framework (Figure 6.4) is deceptive in that it does not fully identify and outline the planning process and all of its elements inherent in the approach. That is, the conventional process of traditional planning which is also the adopted process of this thesis³. For example, he describes a process that is "a collaborative and cooperative approach, uses the assessment to assign values to the current condition and describes the 'desired future ecological condition' of the resources (*and where*) goals and objectives provide the guidance for managing towards the agreed desired future ecological condition" (Lessard, 1998: 85). All of these components are essential elements of the planning process that were introduced in Sections 3.3.1b and 3.3.2a, and discussed throughout Chapters 3 and 5.

³ It would be of more than academic interest to compare the adaptive management approach with the approach required under Queensland's new planning regime, namely the *Integrated Planning Act of 1997*.

Interesting, many of the recommended attributes of the individual components of Lessard's framework bare strong similarities with the desired characteristics of the evolving environmental planning process that has emerged from the literature and adopted in this study. They include: the process must be founded upon a thorough understanding of the existing condition of the ecosystem of interest, and changes and likely trends within the system; the assessment must be scale relevant and multidisciplinary, incorporating biophysical and socioeconomic considerations; early introduction of environmental data to ensure comparability with economic and social considerations, particularly at the commencement of policy development; techniques such as 'scenario generation' should be used to identify critical uncertainties and to rule out impossible/unfeasible developments; evaluation and trade-offs should focus on adaptable options that seek to respond and survive when failure occurs; the process must include implementation which must involve monitoring and evaluation of the management actions, as well as the societal context to test the validity of the DFCs; and monitoring and evaluation should incorporate a trigger, which leads to modification of the management regime.

In terms of the application of Holling's model to the field of management and policy, Gunderson et al (1995) recognise the four corresponding phases of: implementation; failure; generation of alternatives; and reconfiguration. They acknowledge various groups that are influential during each of these phases, namely: bureaucrats implement policies; extremists declare policy failure; shadow or epistemic networks develop alternative choices; and formal decision-makers decide new policies.

However, as previously discussed, contemporary thought and experience now hold alternative views on this simplistic schema. For example, many stakeholders, including bureaucrats and the community-at-large do, and should, contribute to policy development, as well as be responsible for implementation and monitoring. Some views go so far as to suggest that formal decision-makers should now share that responsibility. In later writings, Gunderson (1999: 38) calls for the design of new types of bridging devices to "combine people from inside agencies (loyal heretics) with those outside to facilitate flexible and adaptive management (*claiming*) we can no longer count on the 'technocratic elite' to solve environmental issues. Cases of successful resource policy renewal involve participation of the people affected by the old and new policies (*concluding that*) this proposition is not just a retreat to community-based management, which assumes a placid ecosystem, but is a call for new institutions that actively learn and respond to their environment".

The original case studies that tested this approach were largely in the narrow natural resource management area, and largely excluded social considerations (see Holling, 1978; Walters, 1986). However, it has been previous demonstrated that the adaptive management approach has

a much wider application, particularly in the broader environmental planning and management arena. Interestingly, adaptive environmental assessment, one of the main and original purposes for the initial development of this approach, does not appear to have met with the same degree of success in the EIA arena compared to its application to the broader environmental planning field.

A comparative analysis of six common environmental planning approaches, including adaptive planning, has demonstrated its relevance to contemporary environmental management (see previous discussion in Section 5.3.3b and Table 5.2). From that analysis Briassoulis (1989) has identified the following positive attributes of adaptive planning: it is anticipatory (ie it develops solutions on the basis of predictable future events); it promotes flexibility (ie it makes allowance for each step of the planning process to change direction in response to changes in goals, revised future predictions, and availability of new evidence); and it is a continuous process of adaptive learning from plan making through to plan implementation.

On the potentially negative side, Briassoulis (1989) has observed that it may not necessarily be political realistic and therefore acceptable if for example, the present generation are not prepared to make sacrifices for future generations. Additionally, she also questions if society is prepared for the kind of adaptive learning and experimentation inferred in this approach. In a more fundamental sense, she has also noted that adaptation does not guarantee efficient use of resources, an important substantive element of sustainable development.

Dover (2000) has also sounded caution after an historical review of policy learning, uptake and implementation. He notes that "with rapid institutional change the prospects for memory are not good. We cannot remember what we did a few years back, let alone across the greater span of years of interest to the environmental historian" (Dovers, 2000: 4). This suggests that we need to give close attention to formal and informal institutional mechanisms for collective memory storage and retrieval if adaptive management and collective learning are to be successfully achieved.

Briassoulis (1989: 382) has observed that "alternative planning approaches differ significantly in the ways they handle the uncertainty of environmental phenomena and the level of tolerable risk society is willing to take with respect to the solution of environmental problems". Noting the popularity for the comprehensive approach that met the environmental soundness criterion, she also concluded that it did not appear to explicitly address the issues of uncertainty and risk. As noted in Section 5.3.3b, these pure forms of alternative planning approaches have given way to various hybrid approaches. There is growing evidence that a hybrid based on the comprehensive, adaptive and participatory approaches provides a means to address the

"intractability, controversiality, and uncertainty of environmental problems (*thus providing an*) adopted, reflecting and expanded view of environmental planning as being not only a technical exercise of yielding optimal solutions but also a means to broaden the social basis of environmental decision making, reconcile opposing interests, manage uncertainty, educate the public, and produce implementable solutions" (Briassoulis 1989: 389).

The Holling's adaptive systems model suggest that we should be incorporating into our evolving environmental planning processes, movements from the 'release' phase to the 'reorganisation' phase. This will require stakeholders and the community-at-large to adjust their management policies and practices and to make the necessary transition in response to new information received through serious monitoring. This will need to be accompanied by capacity building within the community and stakeholders which can be facilitated by an inbuilt active learning and adaptive process as part of the implementation phase as previously discussed. Section 3.3.5b has spelt out the importance of capacity building, especially within the context of the LA21 approach.

Thus the learning process is the cornerstone to adaptive management and it is important to ensure that implementation measures facilitate this process. Schnurr (1998: 5) noted that "in structured multistakeholder negotiations, learning is fostered by adopting decision-making guidelines, communication rules, and process steps". He also noted that learning could occur without specific structures if strong incentives and disincentives are in place. He concluded that learning can be facilitated through several principles, comprising: the allowance for interested parties to jointly define the rules for communication and negotiation; provision of equal access to information; the creation of incentives for risk taking; allowance for a margin for error; the delegation of responsibility; and the adoption of a willingness and ability to capture and build on unexpected results.

Forester (1999: 79) provides additional supports for adaptive learning in planning from a different perspective when he explores the challenges of the planner-mediator as a design professional playing a mediating role, namely "roles fostering deliberative processes in which parties can learn together about one another and about their joint possibilities". He goes on to acknowledge that "this managed learning process is not an automatic, natural, or mysteriously creative one (*but requires the planner to use*) professional skills to explore both 'values' (the intentions) and 'value' (what might matter)". He concludes "while reflective practitioners learn as they *act on practical situations*, deliberative practitioners learn as they *act with others* in the practical situations at hand" (Forester, 1999: 249).

6.6 TOWARDS A COOPERATIVE MANAGEMENT MODEL

Johnson and Herring (1999: 364) reviewed seven major US bioregional assessment case studies and concluded that none of the bioregions had institutions in place that could carry forward the recommendations at bioregional scale, noting that most areas were governed by "a patchwork of overlapping institutions that did not recognise the boundaries of the bioregion as useful for governance and did not perceive problems as interconnected among jurisdictions". They also noted that management agencies did not immediately have the capacity to accommodate the recommended management changes, stating that "no amount of good science can substitute for the lack of political will (*and noted that*) the inability of institutions to escape the limitations of their own agendas and philosophies may be a formidable barrier to ecological improvement". They concluded that "while the resistance to regional governance is understandable, bioregions that do not develop some oversight authority for coordinating local plans face the possibility of slipping back into the problems that created the need for an assessment in the first place". This conclusion led them to suggest that "it may be easier if these existing governing bodies take on new responsibilities, rather than superimposing new institutions over existing ones. Who or what will add the parts into an integrated whole remains the big question" (Johnson and Herring, 1999: 375). This conclusion is consistent with the research question and the exploration of the cooperative model that is the subject of this research.

Lipschutz (1999: 113) strongly advocates that "a governance system composed of collective actors at multiple levels, with overlapping authority, linked through various kinds of networks - a hierarchy - might be as functionally efficient as a highly centralised one". He quotes Chisholm who points out that decentralised approaches involving "ad hoc coordinating committees staffed by personnel with the requisite professional skills appear far more effective than permanent central coordinating committees run by professional coordinators", citing the benefits of the informal channels characterised by "their typical clandestine nature and foundation on reciprocity and mutual trust provid(*ing the*) appropriate means for surmounting problems associated with formal channels of communication".

Support for these cooperative approaches based on existing structures also comes from the local domestic experience. The Office of Local Government report into strategic local government approaches to infrastructure (quoting Moreton, 1992), noted that a study into the SEQ2001 regional planning process had concluded that "longer term solutions which build on current structures and their strengths are more likely to succeed than those which require significant changes to existing arrangements" (OLG, 1994: 5).

As previously noted, a number of authors have discussed the various attributes of options and arrangements that are available for cooperative activity (see Syme et al, 1994; Hooper et al, 1999; Margerum, 1999c; Borrini-Feyerabend, 1999). The options available to undertake cooperative action and activities and the range of cooperative management arrangements can be viewed as a continuum of increasing degrees of commitment to cooperative activity. This continuum can be represented diagrammatically as a series of 'steps' with each successive level representing a higher degree of commitment to cooperative action than the previous level. The principal features of this 'stepped' model of cooperative management activity are summarised in Figure 6.5.

These options can range from minimal action (left side of diagram) to maximum action (right side of diagram). Stakeholder expectations in terms of outcomes from their cooperative effort increase in proportion with the increase in cooperative action. However this increase also brings with it an increased requirement in commitment to the cooperative process, along with increased contributions and accountability for the participating stakeholders. The different levels of integrated cooperative management activity can be distinguished by a number of key attributes, including:

1. **power sharing arrangements:** the options for management range from the minimalist approach, then through increasing degrees of power sharing with and between participants, to the maximum level of full and joint decision making arrangement ;
2. **integrative working arrangements:** these options can vary from merely a consultative form for awareness purpose through varying degrees of cooperation, to collaboration, and then to a form of compulsory coordination consistent with the definitions provided in Section 4.1.1;
3. **structural mechanisms:** various forms of structural mechanisms are available for cooperative management ranging from absent and ad hoc forms, to various committee forms, through to more formal structures such as new agencies. Many of these issues were previously canvassed in Section 3.2; and
4. **implementation options:** Margerum's (1999c) options for implementation activity are introduced into the model. These options range from mere information exchange through to more sophisticated forms of collaborative planning, policy development and decision-making (see also Section 5.3.4).

If the concept of a Lead Agency is introduced, it tends to apply in the general areas where committees are activated. This range is also illustrated in Figure 6.5.

Arnstein's (1969) ladder of participation opportunities has been included in the illustration for comparative purposes.

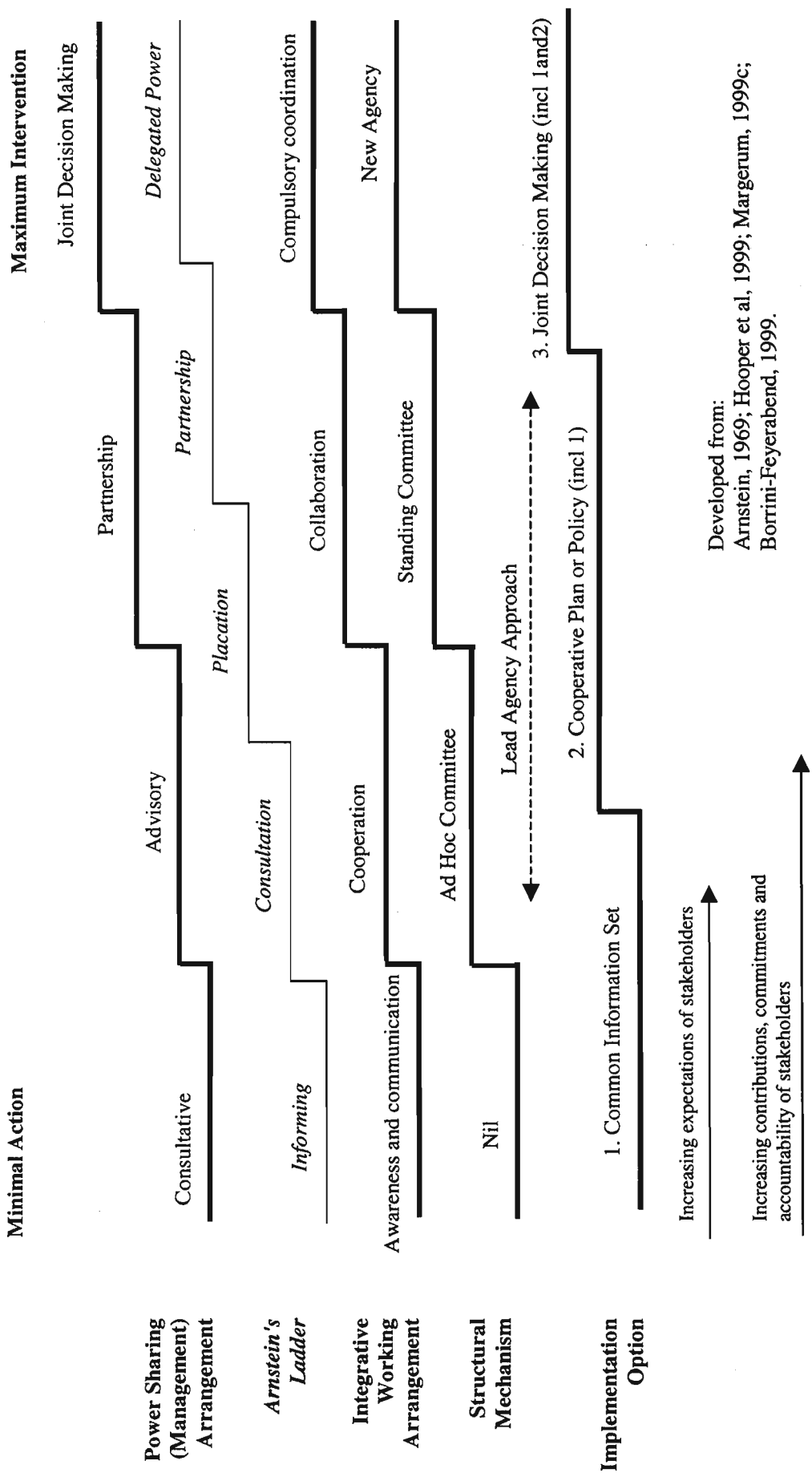


Figure 6.5: Levels of Integrated Cooperative Management Activity

6.6.1 Factors promoting or inhibiting cooperation

Porter and Salvesen (1995) have observed that circumstances involving a number of land ownerships and several jurisdictions require collaborative, voluntary, ad hoc process that brings together the full gambit of stakeholders to balance natural resource protection with development for the area in question. However, from their empirical work, they question why it appears that planners have not been responsive to this need for reconciling different objectives, nor for facilitating these types of forums. They conclude that it is because planning consumes large amounts of time and talent, and that no institutional mechanism exist to fund the necessary studies, countless meetings, and negotiations, or to develop and implement the plan - the process relies entirely on voluntary contributions of time and money. Also there are no guarantees that the process will result in long-term benefits or in a definite regulatory product. Collaborative planning may end in a stalemate or unacceptable compromises.

Porter and Salvesen note that there are few established standards or guidelines on collaborative planning for conservation, nor an agency to provide the support or write the rules. To them it was a voluntary, ad hoc, learn as you go process. They have advanced the following common factors that they believe to be important to the success of a collaborative planning effort:

1. *Political leadership*: this is vital to endow the planning group with legitimacy and a sense of purpose, and at least a perception of power. Leadership is required from within the planning group during the plan making phase and then from a resourceful political leader or agency for the implementation phase;
2. *Participation of all affected interests*: crucial to involve all stakeholders. Some agency representatives may not be authorised to comment officially on policy nor bless any agreement, but their participation ensures a level of understanding about issues that will be crucial to ongoing participatory endeavours, especially consensus building; and
3. *Continuity of planning and management*: must ensure that a mechanism is in place for successful implementation of the plan.

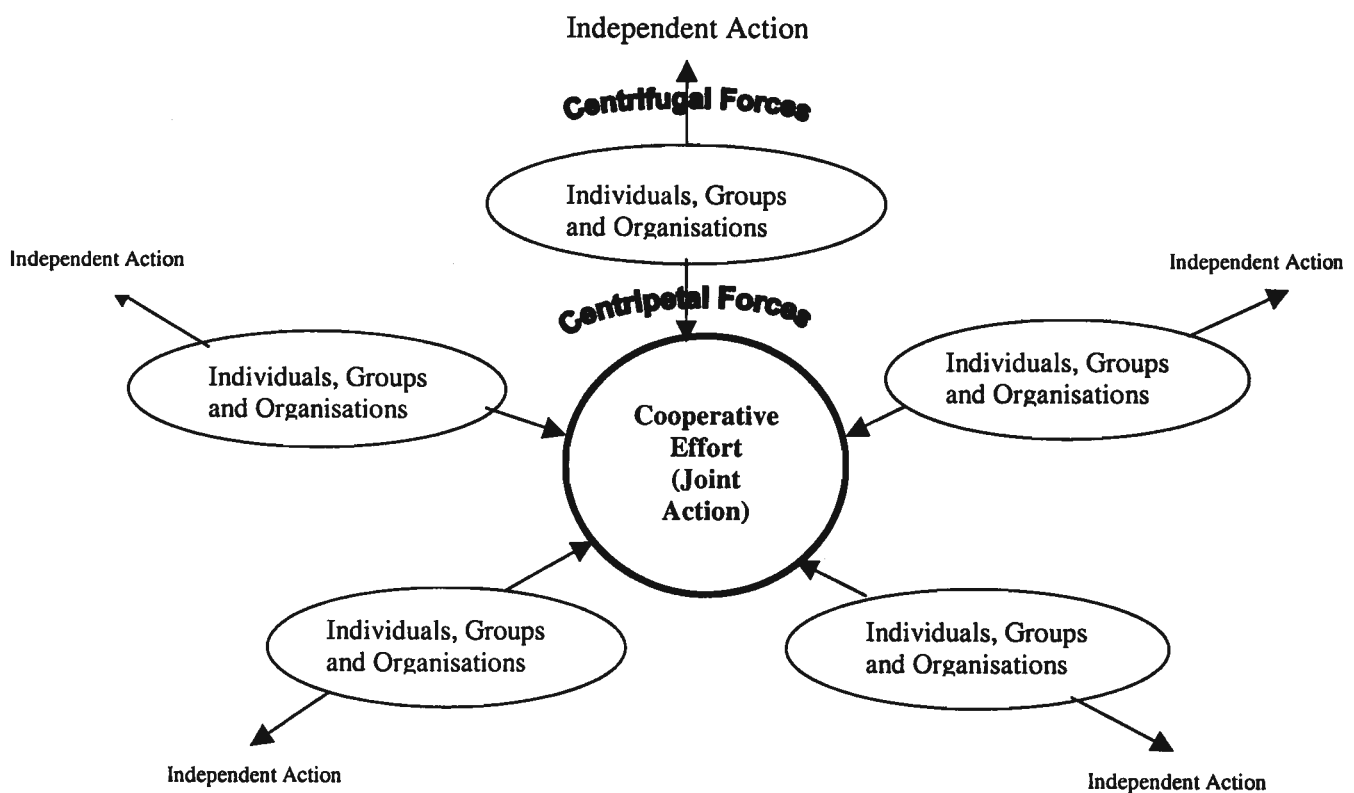
Knight and Landres (1998) conclude their edited review of stewardship across boundaries by articulating a range of premises and associated actions for achieving such stewardship⁴. Those relevant to the research themes of this study include:

1. Premise: *A democratic society supports diverse values* – All values have merit and they must be melded into the management process. Associated actions include: improve communication, cooperation, and coordination among managers and stakeholders; relax traditional "command and control" approaches; and develop local support networks (engage the local community).

⁴ Knight and Landres (1998) define a premise as an underlying assumption on which stewardship across boundaries depends. The associated actions must be taken in order to effect cross-border management.

2. Premise: *Decisions are influenced by values* – Values of society, local area, and decision-makers all contribute to the decision-making process. Associated actions include: make value judgements explicit; and clarify if decisions are based on value judgements or technical merits.
3. Premise: *Barriers to cross-boundary stewardship can be overcome* – Barriers include legal, policy, administrative, and social (in many forms). Barriers can be overcome through innovative and unique ways within the existing legal and administrative frameworks. Associated actions include: recognise the barriers that prevent landscape-scale stewardship; allow creative and risk-taking individuals to lead in forming innovative partnerships; and improve laws, economic policies and tax incentives and agency administrative policies to promote stewardship across boundaries.

On a more specific note, Yaffee (1998) has developed a model of cooperation that best articulates the elements at play - see Figure 6.6.



After Yaffee (1998)

Figure 6.6: Cooperative Behaviour as a Balance between a Set of Centrifugal and Centripetal Forces

Yaffee's model comprises a centre defined by the collective efforts of goals, resources, and activities, surrounded by a periphery of individuals, groups, and organisations that can

potentially contribute to the collective effort. These peripheral actors are subject to countervailing forces, with some (centrifugal forces) acting to oppose or pull them away from the centre, by encouraging them to act independently, whilst others, (centripetal forces), push towards the centre as they act to encourage and promote cooperative interaction. With the existence of ongoing tensions between these forces, successful cooperation will be dependent on the centripetal forces outweighing the centrifugal forces – ie maximising the forces that foster cooperation and minimising those that mitigate against it. Yaffee goes on to identify nineteen different forces that promote or oppose cooperative effort, in terms of their association with a participating member (internal factors), or the environment in which the members operate (external factors), see Table 6.4.

Table 6.4: Factors Promoting and Opposing Cooperative Behaviour

	Centrifugal Forces (making cooperation less likely)	Centripetal Forces (making cooperation more likely)
Internal Factors (those relating to the actor/site)	<ul style="list-style-type: none"> • Conflicting goals and missions • Different traditions and norms • Desire for autonomy and control • Limited resources 	<ul style="list-style-type: none"> • Opportunities to gain through collective action • Perception of common problems or threats • Shared goals or sense of place • Entrepreneurs and champions • Relationships • Effective processes and process management • Innovative structures to maintain cooperative relationships
External Factors (those relating to the external environment and context)	<ul style="list-style-type: none"> • Public opposition, fear and scepticism • Pre-existing allegiances and relationships • Lack of agency support • Government policies and procedures • Opportunities to proceed independently 	<ul style="list-style-type: none"> • Opportunities, resources, and incentives • Public pressure or interest • Technology

Source: Yaffee (1998)

Ostrom (2000) points to the increasing empirical evidence that government policy can frustrate rather than facilitate the cooperative efforts of private individuals in the provision of public goods. She also notes that the most successful and enduring examples of self-organised cooperative initiatives have survived due to the participant's investment in monitoring and sanctioning the actions of each other in order to minimise the probability of free-riding.

Other earlier work by McAllister and Zimet (1994) into successful case studies across USA has concluded that both horizontal collaboration (within a local area) and vertical collaboration

(with other levels of government) was achievable. In particular, they noted that leadership, in various forms, was always found from within the local area; scale (regional or local) was not an issue, particularly if participants saw solutions to problems at these levels; grassroots solutions were forthcoming, especially in difficult cases; a snowballing effect often resulted from small successes; and lastly, there was evidence that persistence pays.

6.6.2 Design principles for cooperative arrangements

To Alexander, structures for interorganisational coordination (IOC) have to fit their tasks - it could be information exchange, operational coordination, managerial or administrative coordination, or anticipatory coordination in the development of policy or plans. In reviewing numerous case studies of interorganisational coordination, Alexander (1995: 325) concluded "there is no universal algorithm that can present the IOC structure's critical attributes, identify the relevant factors in the IOC structure's setting, and describe their relationship in a way that offers a set of unequivocal design norms. There is so much variety and complexity in (*these*) interorganisational systems that it is unlikely that such a recipe will ever be found". This has led Alexander to conclude that "if there is no formula for successful institutional design, it does seem that effective IOC depends on the fit between the coordination structures, and the action set of organisations they serve".

Ostrom (1990) raises the ubiquitous problems related to the supply of new sets of institutions; the making of credible commitments; and of mutual monitoring. To positively achieve these ends, she advances a set of 'design principles' that have been identified from empirical studies as being associated with the successful sustainment by long-enduring institutions of common pool resources (CPRs). These design principles are set out in Table 6.5. Whilst providing guidance on the design of cooperative arrangements they also provide a means to evaluate the case study.

Table 6.5: Design Principles Exhibited by Long-enduring CPR Institutions

No	Design Principles (DP)
DP1	Clearly defined boundaries: <i>Stakeholders who have the rights to withdraw resource units from the CPR must be clearly defined as must the boundaries to the CPR itself.</i>
DP 2	Congruence between appropriation and provision rules and local conditions: <i>Appropriation rules restricting time, place, technology, and/or quantity of resource units are related to local conditions and to provision rules requiring labour, material, and/or money.</i>
DP 3	Collective-choice arrangements: <i>Most individuals affected by the operational rules can participate in modifying the operational rules.</i>
DP 4	Monitoring: <i>Monitors, who actively monitor CPR conditions and appropriator behaviour, are accountable to the appropriators or are the appropriators.</i>
DP 5	Gradual sanctions: <i>Appropriators who violate operational rules are likely to be assessed graduated sanctions by other appropriators, by officials accountable to these appropriators, or by both.</i>
DP 6	Conflict-resolution mechanisms: <i>Appropriators and their officials have rapid access to low-cost local arenas to resolve conflicts among appropriators or between appropriators and officials.</i>
DP 7	Minimal recognition of rights to organise: <i>The rights of appropriators to devise their own institutions are not challenged by external governmental authorities.</i>
DP 8	Nested enterprises (when CPRs are parts of larger systems): <i>Appropriation, provision, monitoring, enforcement, conflict resolution, and governance activities are organised in multiple layers of nested enterprises.</i>

Based on Ostrom, 1990: 90

Ostrom (1990) found from her empirical studies that individuals made contingent commitments that followed rules that: define a set of appropriators who are authorised to use CPR (DP 1); relate to the specific attributes of the CPR and the community of appropriators using the CPR (DP 2); are designed, at least in part, by local appropriators (DP 3); are monitored by individuals accountable to local appropriators (DP 4); and are sanctioned using graduated punishments (DP 5).

Some pertinent lessons that have emerged from empirical and theoretical research of conditions likely to stimulate successful self-organising processes for local and regional CPRs include: (1) resources must still be in a useful condition and used; (2) benefits are easiest to access when users have accurate knowledge of external boundaries, internal microenvironments and reliable and valid indicators of resource conditions; (3) existence of previous organisational experience and local leadership; (4) facilitation by the broader social setting (eg policies of higher levels of government); (5) past management and administrative practices; (6) the number of potential participants (ie larger numbers increase the difficulty of organising, agreeing and enforcing the rules); (7) cultural diversity (ie in cases where this can decrease the likelihood of finding shared

interests and understanding); (8) accelerated rates of change (ie to the point where learning by doing is increasingly difficult as past lessons are less applicable to current situations); and (9) a collective-choice rule of unanimous agreement where voluntary assent to negotiated agreements is required although it may allow some potential participants to hold out for special privileges prior to joining, thereby influencing the resource management policies outcomes (Ostrom et al, 1999).

On the other hand, other work suggests that non-adopted proposal of a collective-choice exercise may reflect a flawed proposal in terms of efficiency and equity (Walker et al, 2000).

6.6.3 Procedural Principles

The design principles can be complimented with additional sets of procedural principles that can act as centripetal forces and thereby encourage and promote a higher degree of cooperation. These principles for cooperative activity and effort can also be considered as operational rules. Suggested rules to improve the chances of successful cooperation come from a number of sources and they are summarised below:

<u>Procedural Principle</u>	<u>Source</u>
1. Develop a shared vision - establish common ground of shared values and aspirations - recognise the legitimacy of each other's interests - involve all stakeholders	(Minnery, 1985: 201; USDA Forest Service, 1995; Porter and Salvesen, 1995: 208; Healey, 1997: 219)
2. Establish positive leadership - for legitimacy, sense of purpose and perception of power	(USDA Forest Service, 1995; Alexander, 1995; Porter and Salvesen, 1995: 208)
3. Know and understand physical, social and human assets available for cooperative efforts	(USDA Forest Service, 1995; Alexander, 1995)
4. Early uptake in adoption of an innovation	(Alexander, 1995)
5. Focus on activities offering potential economies of scale, but which also produce outcomes that are useful to each member of the interorganisational network. Create a situation where pay-offs are greater for cooperation than competition	(Rubin [1984] quoted in Alexander, 1995: 174; USDA Forest Service, 1995; Borrini-Feyerabend, 1999)
6. Open and honest communication of relevant information between the parties with each interested in informing as well as being informed by the other - includes a network and process to exchange knowledge	(Ward & Dubos, 1972; Minnery, 1985: 201; USDA Forest Service, 1995; Healey, 1997: 219)
7. Break down barriers - develop a trusting and friendly attitude that increases the willingness to respond helpfully to the other's needs and requests	(Minnery, 1985: 201; USDA Forest Service, 1995)
8. Define the conflicting interests as a mutual problem to be	(Minnery, 1985: 201; Gray

<u>Procedural Principle</u>	<u>Source</u>
solved by collaborative effort	1989)
9. Stimulate a convergence of belief and value through increase sensitivity to similarities and common interests, whilst minimising the salience of difference	(Minnery, 1985: 201)
10. Create an advisory interorganisational group representing the network - ie a board or committee for political protection	(Rubin [1984] quoted in Alexander, 1995: 174)
11. Diversify the coordinating unit's resource base - find different sources of funding	(Rubin [1984] quoted in Alexander, 1995: 174)
12. "Capture" other bureaucratic agencies that are non-controversial	(Rubin [1984] quoted in Alexander, 1995: 174)
13. Acknowledge a role for government in the provision of hard and soft infrastructure to facilitate consensus building, mutual learning and development of social, intellectual and political capital	(Healey, 1997: 219)
14. Wherever possible, depoliticise - define actions as merely technical	(Rubin [1984] quoted in Alexander, 1995: 174)
15. Be prepared to take political "heat" to protect your allied organisations and political supporters	(Rubin [1984] quoted in Alexander, 1995: 174)
16. Identify cooperative projects that capitalise on network members' distrust of outside agencies	(Rubin [1984] quoted in Alexander, 1995: 174)
17. Maximise "meshing" and "reticulating" activities - dyadic interactions between the coordinating unit and other network organisations	(Rubin [1984] quoted in Alexander, 1995: 174)

As previously noted, 'process' is more important than the 'plan', and hence the discipline and field of planning can make a considerable contribution through the provision of the "planning process". Consequently, procedural principles that can guide practice are critically important in this regard. Drawn largely from empirical research, these procedural principles provide useful guidance for the various calls for the articulation of additional guidelines in order to promote and enhance the implementation of collaborative planning and management processes. They can also serve as useful benchmarks of emergent best practice with which to evaluate the case study.

6.7 CONVERGING PARADIGMS OF PRACTICE

A greater degree of convergence can be expected as an increasing number of issues and themes become the common focus and concern of more disciplines and fields of study and thereby

creating the immediate need to communicate, and then to interact, between these disciplines. Steiner (1991: 8) makes a call for a common language, a common method amongst all those concerned about social equity and ecological parity. He argues that "the method must transcend disciplinary territorialism and must be applicable to all levels of government" - a cooperative approach? He further argues that the approach must incorporate both social and environmental concerns and acknowledge that it must allow planners to analyse the problems of a region as they relate to each other, to the landscape, and to the national and local political and economic structure. He advocates an ecological planning method and work such as Slocombe's ecosystem-based management may prove useful in this regard.

This review has demonstrated that a reasonable degree of convergence already exists from different disciplines and fields on the substantive elements of integrated planning and management, namely, its holistic, interconnected, goal-orientated and strategic approach. However, as Margerum points out, the challenge is to address the procedural issues and to put this concept into practice and as he notes, "the difficulties that have been encountered in trying to apply the concept demonstrates that practitioners would benefit from more guidance" (Margerum, 1997: 469). Whilst taking current knowledge from existing research and experience into account, Margerum (1997) acknowledges that more research is required, in four principal areas in order to work towards a model of practice. These areas include:

1. *Empirical research on practice*: this will require a more thorough analysis of why some efforts have been more successful than others. Greater emphasis on systematic analysis of integrated approaches in planning and implementation;
2. *Incorporating social science contributions*: this will involve greater interaction between the disciplines to enable many of the policy and planning science principles to filter into the natural sciences, thus providing greater emphasis on process, public policy and urban and regional planning;
3. *Incorporation and refinement of collaborative frameworks*: whilst noting that the existing body of literature on this topic suggest that a degree of collaboration is emerging as an element of a planning process, it is also seen as the core mechanism for achieving a more integrated approach. It is also noted that further research and testing is required to confirm the application and effectiveness of these emerging collaborative approaches.
4. *Institutional changes for long-term coordination*: essentially this requires an improved understanding of the institutional changes necessary to facilitate communication and collaborative decision making amongst stakeholders.

Margerum (1997: 471) concludes by acknowledging the need for a four staged approach to future research into a clearer model or framework for integrated planning and management to assist with practice. He cites the four steps as requiring: (1) additional empirical research to

ascertain the reasons for the success of some approaches over others; (2) the need to build on the existing rich body of literature on public participation, communication, coordination and conflict resolution; (3) the incorporation and refinement of existing models of collaboration; and (4) the explanation of the institutional changes that will support ongoing interactive decision-making. This study has sought to address its research question in terms of Margerum's conclusions.

Slocombe, in a review of works by Canadian geographers in the resource and environmental planning and management areas from 1996 to 1999, identified a continuation of past strengths in areas such as institutional and procedural analysis, and watershed management, but also noted a number of evolutionary and transformatory trends. Two particular trends are of relevance and consistent with the research themes of this thesis, namely, "the processes and results of comprehensive regional planning, (*and*) sustainability at local and regional scales" (Slocombe, 2000: 56). Key findings of particular note from Slocombe's review suggest that whilst there has been a considerable increase in theoretical and case study-based understanding of regional and larger scale integrated planning and assessment processes, there is also new work emerging in terms of "the breadth of stakeholders, the genuine multidisciplinary of research and planning, and the attention to multiple, critical perspectives, and issues of power and control" (Slocombe, 2000: 62). He concludes that there is now greater recognition that resource and environmental problems are more than just technical issues and they require more than technical solutions, which could embrace different resource management approaches, including partnership style participatory mechanisms, and voluntary corporate initiatives. On the issues of sustainability and sustainable development, Slocombe (2000: 63) notes that they now tend to be addressed specifically in particular contexts such as communities, regions and watersheds, leading him to conclude that "research on sustainable development has turned into local, regional and ecosystem-specific studies of sustainability (*and*) watershed management interests has shifted to comprehensive regional planning".

With these converging trends, arise the opportunity for planning practice to provide the process and coordinating mechanism that will be required for the integrated and adaptive forms of management that are evolving Friedmann's (1998) 'bridge' from knowledge to action. These emergent trends and initiatives may in fact have the effect of addressing the serious and disappointing lack of response from traditional planning to the contemporary environmental challenges, as previously discussed and thereby assist the planning profession to *regain its lost ground*.

7.0 THE LOGAN-ALBERT CATCHMENT CASE STUDY – Evaluation Setting & Framework

7.1 GENESIS OF COOPERATIVE ACTIVITIES IN THE LOGAN-ALBERT CATCHMENT

Increasing trends towards integrated approaches to environmental and landscape planning and management have been well documented in the literature. These approaches acknowledge the necessity for greater community engagement and the desirability of stakeholder participation in the decision making phase of the planning and management cycles. Other work has advanced the use of natural (ecological) units such as bioregions, watersheds and drainage catchments, as spatial units for study, planning and management. Consequently, interest has emerged in collaborative efforts that require more cooperative and coordinated approaches.

These trends have coincided with moves away from large and expanded bureaucracies with top down and formal approaches to governance and landscape management towards other alternatives, embracing partnership arrangements that can explore more community based and bottom up solutions. Consequently the thesis proposition explores whether *a group of local authorities can exercise their statutory planning responsibilities to manage regionally significant environmental issues through a cooperative planning arrangement based on a natural spatial management unit of a river catchment.*

These considerations were in the background (albeit vaguely), at the time when the local authorities that comprised the Logan-Albert catchment first met in October 1987 in response to Logan City Council's (LCC) invitation to jointly address the future management of the Logan River. This meeting was in response to the LCC's earlier adoption of a *Watercourse Management Strategy* report for the Logan River and its five principal tributaries within the city area. As previously noted (see Section 2.2.1), this report recommended the adoption of an "Adjacent Shires Cooperation Policy" which could provide the Council with some means to address planning and management issues within the Logan River and its catchment that were beyond the bounds of its statutory controls and its existing town planning scheme.

Adjacent Shires Cooperation Policy

The Logan City Council shall seek the cooperation of the adjacent local authorities in order to prevent land use conflicts arising through the implementation of the management zones outlined in the Strategy Plan.

Landscape Planning Group, 1985: 70

The outcomes of the October 1987 meeting eventually led to cooperative management activity for the Logan-Albert catchment that is summarised below (see also Appendix 2.1 for a summary chronology of events relevant to the Logan-Albert initiative). A detailed description and evaluation of specific cooperative activities that related to the LARMCC initiative for the eleven-year study period is provided in Chapters 8 and 9.

The October 1987 meeting was attended by representatives of three catchment local authorities together with representatives from the Gold Coast Waterways Authority (later becoming the Maritime Division, Queensland Transport), Water Quality Control Council, (now the Environment Protection Authority [EPA]), and the Queensland Recreation Council, (now Sports and Recreation Queensland [SRQ]). These organisations agreed to review the relationship of the policies of the Logan City Watercourse Management Strategy to their areas of interest and responsibility and to meet in six months time to consider the issue of coordinated management in more detail.

The next meeting was not held until 7th December 1988 and on that occasion it was agreed to formalise a joint coordinating process in the form of an organisation to be known as the Logan River Management Coordinating Committee (LRMCC). This body would comprise two representatives (one elected member and one staff officer) from each of the five participating organisations who then exercised planning, development control and management functions over the Logan River catchment, viz:

- Albert Shire Council (later Gold Coast City Council) – ASC (GCCC)
- Beaudesert Shire Council - BDSC
- Gold Coast Waterways Authority (later Maritime Division, DoT) - GCWA
- Logan City Council - LCC
- Redland Shire Council RSC

The inaugural meeting of the LARMCC was held on 8th March 1989. This meeting resolved to accept the services of the Landscape Planning Group of the Queensland University of Technology in a research and planning advisory capacity¹.

In recognition of the area of the upper Logan catchment within Boonah Shire, (namely Teviot Brook – a major tributary of the Logan River), it was agreed at the 2nd June 1989 meeting of the LRMCC to invite Boonah Shire Council (BSC) to participate in the joint coordinated management for the Logan River. Initially, due to resource limitations Boonah Shire Council's

¹ This function was later transferred with the Management Committee's concurrence, to the School of Environmental Planning, Griffith University when the former QUT planning staff took up new positions at Griffith University in 1995.

participation was limited to observation of meetings conducted at Beaudesert. It was not until November 1994, before Boonah Shire Council became a full member of the LRMCC.

The LRMCC was formally endorsed as a sub-committee of the Southern Regional Organisation of Councils (SouthROC) on the 2nd of November 1992. In April 1995 the LRMCC resolved to consolidate their area of interest with the addition of the Albert River catchment. This decision was reflected in a change of organisational title to the Logan and Albert Rivers Management Coordinating Committee (LARMCC).

The December 1988 meeting also established a Technical Support Group (LRTSG) to service the Management Coordinating Committee. This Support Group would comprise officers from each of the five participating local authorities, together with technical staff nominees from relevant state government departments and agencies whose administering legislation required them to exercise direct control over some facet of the Logan River system. The assistance of other state government departments would be sought through the Technical Support Group on an "as required" basis. The LRMCC requested the Technical Support Group establish a list of areas of concern, problems and issues relevant to the Logan River. The inaugural meeting of the Logan River Technical Support Group was conducted on 14th April 1989.

A twenty-five person Logan River Community Consultative Committee (LRCCC) was established to provide a mechanism for community participation in the catchment planning process. The inaugural meeting of the LRCCC was held on 26th November 1993. The LRCCC drew its membership from various community organisations and individuals from within the catchment. The committee became inactive in 1995. In September 1997, the LARMCC gave support to the establishment of a new Community Consultative Committee that would include the Albert River catchment. The first meeting of all interested parties was held on in October 1998 and an Interim Committee was formed. A representative from the LRCCC was a member of the LARMCC, and acted as a liaison between the two committees.

7.2 CONTEXTUAL BACKGROUND

This section provides an outline of the late 1980s/early 1990s planning climate in Australia and Queensland around the time leading up to and including the establishment of the Logan-Albert initiative and its institutional arrangements. In order to provide this context for the case study, the section summarises the major environmental and regional landscape issues within the geographical setting of SEQ, the historical nature of the planning and institutional setting and then provides a chronological context of the case study. It concludes with a summary of the land tenure context for landscape management within SEQ.

Hall (1999: 206/7) points out that "the environment at the time of organisational formation is crucial for the form that the organisation takes and that this form persists over time". These environmental dimensions include technological, legal, political, economic, demographic, ecological, and cultural conditions. He argues "if the newly introduced organisational form is compatible with the technology of the time, it tends to persist over time regardless of gradual changes in technology".

7.2.1 The Logan-Albert Catchment Geographical Setting

The Logan-Albert Catchment, the geographical research setting for this study is outlined in Figure 7.1. The study area in the context of its regional setting was previously introduced by Figure 2.1.

Figure 7.1 illustrates the sub-catchments of the Logan and Albert Rivers that comprise the focus area for the LARMCC. The natural boundaries of these catchments have been superimposed over the boundaries of the individual local authority areas within the catchments. The most immediate and obvious observation is the complete mismatch between the natural biophysical boundaries of the river catchments with the artificial administrative boundaries of the local authorities and also their ROC groupings. This in itself is further support for the significance of the research question. Other points of note in relation to the LARMCCs catchment area include its embrace of:

- parts of five local authorities in the region, namely: Gold Coast City; Logan City; Beaudesert Shire; Boonah Shire; and Redland Shire, and to a very limited extent, Brisbane City; and
- parts of two ROCs, namely: SouthROC and WESROC.

The principal physical and socio-economic characteristics of the catchment are described in Appendix 7.1. In order to provide a brief context for the subsequent review and evaluations of the case study (see Chapters 8 and 9) a summary of the geographical setting is set out below.

Physical Characteristics: The Logan and Albert Rivers, in a catchment of 3,740 sq km, have their headwaters in the Scenic Rim/Border Ranges on the Queensland/New South Wales border. The Logan enters the sea via southern Moreton Bay. Its catchment of 2,986 sq km is contained within six local authority areas with direct frontage along its 175 km length to Beaudesert Shire, Gold Coast City, Logan City and Redland Shire. Its major tributary, Teviot Brook (103 km length), has direct frontage with Boonah and Beaudesert Shires. By contrast, the Albert River catchment of some 754 sq km, and a river length of 134 km, has direct frontage with Beaudesert Shire and Gold Coast City.

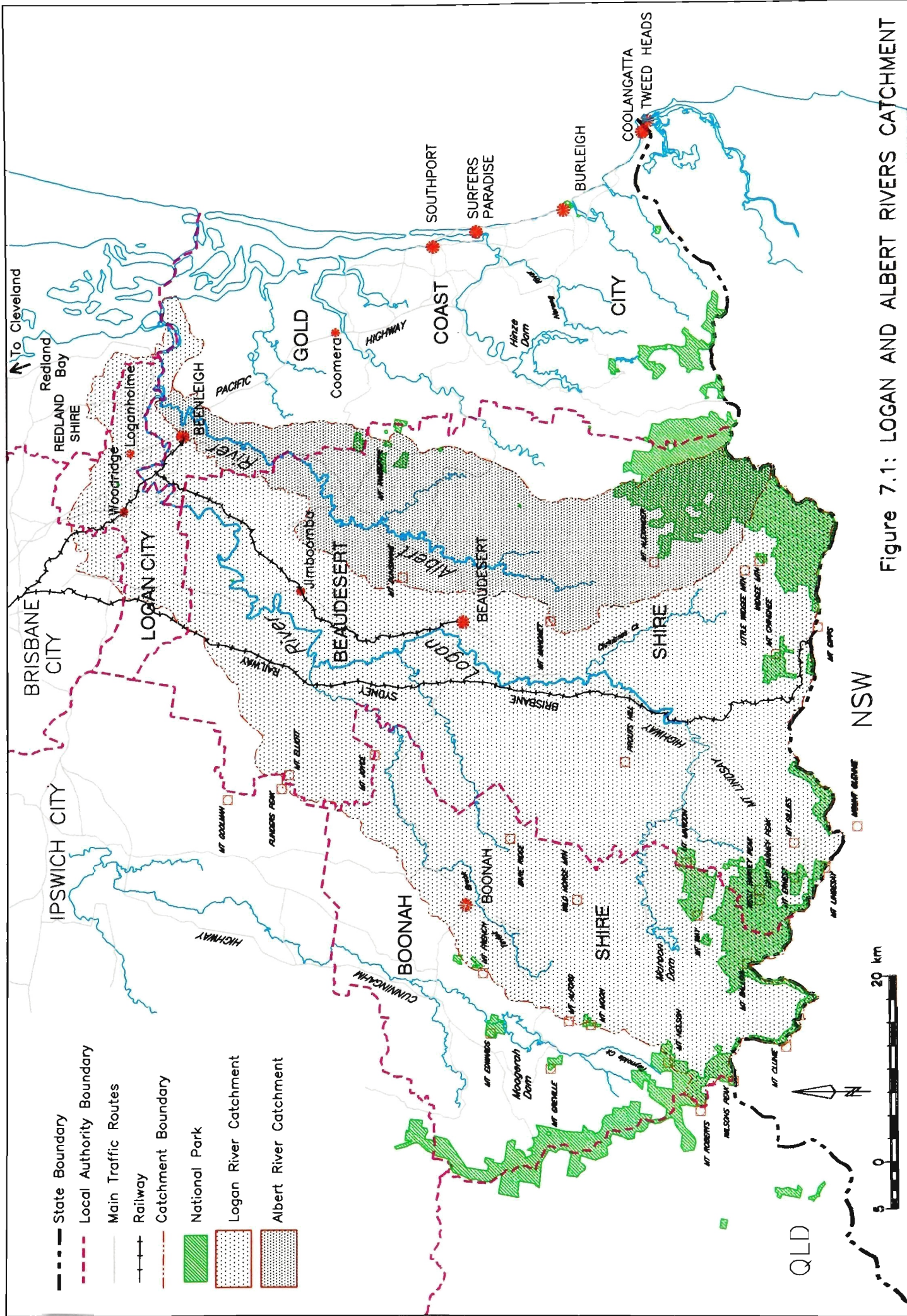


Figure 7.1: LOGAN AND ALBERT RIVERS CATCHMENT

Population: The catchment is characterised by rapid population growth and a high degree of residential mobility. Its 1996 population of 225,088 represents an 18% increase from its 1991 population of 190,937 persons². It is estimated that the catchment will experience continued strong growth, contributing some 52% to the future SEQ growth by 2011 when it is estimated that the catchment's population will be some 278,200 (QDLG&P 1996:18). The catchment contains 10% of the SEQ population and 7% of the State's population. Comparatively, a greater percentage of the population resides in the Logan River catchment than the Albert River catchment.

In comparison to SEQ, the catchment has a youthful profile comprising mainly Australian born families residing in single detached dwellings. However, rural shires, such as Boonah, have a higher percentage of elderly and less youth than urban areas of the catchment. Comparisons between the 1991 and 1996 censuses indicated an ageing of the catchment's population has occurred.

The Economy: On the basis of employment data, the dominant industry in the catchment is the Wholesale and Retail Trade Industry (24% of the workforce). This is followed by the Manufacturing Industry (16%), and the Construction Industry (10%). Since 1991 the Construction Industry has replaced the Community Services Industry as the third largest employer in the catchment. Whilst the Agriculture, Forestry, Fishing and Hunting Industry occupies 46% of the catchment, it employs only 2% of the catchment's workforce. The 1993 tourist accommodation takings of the catchment local authorities represented 55% of the SEQ takings and 30% for Queensland (ABS, 1994). However, these figures are heavily skewed by the tourist destinations that are external to the catchment but within those local authorities that form the catchment - the urban Gold Coast coastal strip being a case-in-point.

Areas of Regional Conservation Significance: The SEQ2001 Open Space and Recreation Policy Paper summarised areas identified by local authorities as having potential regional conservation significance in SEQ. Several significant areas in the catchment were identified including, Lamington National Park, Daisy Hill State Forest, Mt Lindesay and Mt Barney National Parks, Carbrook Wetlands and Mt Cotton Bushland. A full list is tabulated in Table 7.1 below. Of particular significance in the catchment is the remnant bushland vegetation, especially vine forest remnants which have been given the most urgent conservation priority in SEQ due to their species diversity and number of rare and threatened species (Beaudesert Shire Council, 1996:73). Beaudesert Shire and Gold Coast City both recognise the conservation priority that is required to protect remaining scattered pockets of vine forest in the Logan and

² Whilst census data from 2001 census was not available at the time of this study, the censuses of relevance to the case study's review period (1989 – 1999) were the 1991 and 1996 censuses.

Albert Rivers catchment. The Scenic Rim/Border Ranges World Heritage area also holds significant conservation value in relation to the catchment (RPAG, 1993b).

Scenic Rim/Border Ranges World Heritage Area: The Scenic Rim/Border Ranges area refers to the system of prominent mountain ranges to the south and west of Brisbane. The Rim begins near Laidley and stretches south to include the Little Liverpool Range, Mistake Mountains and Main Range, then eastward from Wilson's Peak along the McPherson Range and the Queensland/New South Wales border. Most State land in the Scenic Rim has been included in the World Heritage listing as part of the '*Central Eastern Rainforests of Australia*' in 1994. The Scenic Rim contributes to the following World Heritage values:

- outstanding examples representing major stages of the earth's evolutionary history;
- outstanding examples representing significant ongoing geological processes and biological evolution; and
- the most important and significant natural habitats where threatened species of animals and plants of outstanding universal value from the point of science or conservation still survive.

The Scenic Rim/Border Ranges is significant in relation to the management of the Logan and Albert River catchment as it is the source and watershed for those river systems. In a regional context, the Scenic Rim represents a major proportion of the remnant natural land in the rapidly urbanising area of SEQ. The value of the Scenic Rim in terms of conservation, water supply, education value, cultural heritage and tourism means that effective management of the Scenic Rim area is integral to effective management of the Logan-Albert Rivers catchment.

7.2.2 Historical Context - Regional and Catchment Issues at Establishment

Within the regional context, the range of environmental and institutional issues of concern to the SEQ population that assisted in initiating the SEQ2001 regional planning exercise has previously been canvassed (see Section 3.1.3).

A 1992/93 survey of SEQ local authority planning organisations revealed a range of areas of regional conservation significance. Consistent with the previous definition of regionally significance, (see Section 3.3.6b), the nominated environmental resources of this status for each local authority in the Logan-Albert catchment are outlined in Table 7.1.

Table 7.1: Nominated Areas of Regional Conservation Significance in the Logan-Albert Catchment

Local Authority	Area of Regional Conservation Significance	Reason for Significance	Threat to Sustainability	Local Authority's Preferred Course of Action
Albert Shire ³	Nil in catchment	–	–	–
Beaudesert Shire	1. Spring Mountain - Flinders Peak	<ul style="list-style-type: none"> • remnant lowland bush 	<ul style="list-style-type: none"> • uncoordinated development • land clearing (freehold lands) 	–
	2. Tamborine Mountain	<ul style="list-style-type: none"> • contains nine small national parks • other significant land in private ownership 	<ul style="list-style-type: none"> • visitor pressures • land clearing (freehold land) 	<ul style="list-style-type: none"> • DCP (future)
	3. Mt Barney National Park	<ul style="list-style-type: none"> • largely undeveloped • varied flora & Fauna 	<ul style="list-style-type: none"> • visitor pressures 	<ul style="list-style-type: none"> • QNPWS Management Plans
	4. Lamington National Park	<ul style="list-style-type: none"> • part of subtropical rainforest reserve 	<ul style="list-style-type: none"> • visitor pressures 	<ul style="list-style-type: none"> • QNPWS Management Plans
Boonah Shire	1. Maroon Dam	<ul style="list-style-type: none"> • urban water for other local authorities 	–	–
	2. Scenic Rim - McPherson Border range	<ul style="list-style-type: none"> • scenic beauty • historical interest • recreational opportunities 	–	–
Logan City	1. Cornubia (Por 238)	<ul style="list-style-type: none"> • part of core koala habitat • important flora/fauna habitat 	<ul style="list-style-type: none"> • development • land clearing (freehold lands) 	<ul style="list-style-type: none"> • Town planning - State government control • Land acquisition • Tree preservation by-law • Regional planning
	2. Daisy Hill State Forest/Neville Lawrie Reserve & adjacent lands	<ul style="list-style-type: none"> • valuable flora/fauna habitat (koalas) • part of proposed coordinated conservation area 	<ul style="list-style-type: none"> • development • land clearing (freehold lands) 	<ul style="list-style-type: none"> • as above
	3. Carbrook Wetlands & associated Eucalypt forests	<ul style="list-style-type: none"> • significant extensive alluvial Melaleuca Wetlands • part of core koala habitat 	<ul style="list-style-type: none"> • land clearing • land drainage • lack of catchment management considerations 	<ul style="list-style-type: none"> • as above

³ Now Gold Coast City

Local Authority	Area of Regional Conservation Significance	Reason for Significance	Threat to Sustainability	Local Authority's Preferred Course of Action
	4. Logan River	<ul style="list-style-type: none"> major watercourse includes extensive wetlands some rainforest remnants 	<ul style="list-style-type: none"> terrestrial activities impinging on river 	<ul style="list-style-type: none"> as above
Redland Shire	1. Mount Cotton Bushland	<ul style="list-style-type: none"> core koala habitat remnant eucalypt bushland high habitat value for wildlife water supply catchment 	<ul style="list-style-type: none"> fragmentation from urban subdivision indiscriminant clearing agriculture 	<ul style="list-style-type: none"> coordinated management enforced by planning controls

(derived from RPAG, 1993b)

Interestingly only one local authority nominated the Logan River, although others nominated geomorphological features of environmental sensitivity such as wetlands associated with the river system. This concern for the Logan River by LCC is a key aspect to the case study and is examined in some detail in subsequent chapters. Other points of note in relation to the research question include the readily advanced notion of planning, including regional planning, by the local authorities as a management solution (see 'Local Authority's Preferred Course of Action' column on Table 7.1). As the next Section will demonstrate, there was no precedent in Queensland planning practice for a regional approach at this time, which leads to the conclusion that at least the planning profession was ready to explore other forms of planning endeavour, even if their political masters needed further convincing. Whilst statutory town planning was seen as providing some form of management approach, it was not a widespread preferred course of action for many local authorities.

7.2.3 Historical Context - Planning and Institutional Setting at Establishment

To a large extent, the late 1980s planning and institutional environment from which the genesis of the LARMCC initiative emerged has been previously outlined in Section 3.3.4b - Regional planning responses. The literature of this vintage or about this period essentially demonstrates that Queensland was characterised by:

- **An absence of regional thinking and regional planning** - Low Choy and Minnery (1994: 202) have noted that "a major feature of planning across Queensland has, in fact, been the absence of regional planning. Local government has dominated because state government had devolved all major planning functions to local authorities. The result was that there was essentially no formal nor institutional link between statutory plans of local authorities

and the programs of the state government agencies operating in the same territories". This was despite official conclusions that a regional planning approach was not only desirable but feasible under legislation that existed at that time (EARC, 1990). A minor exception was the very brief foray of the State government (in association with the Federal government) into regional level studies through the 1976 Moreton Region Growth Strategy Study (previously introduced in Section 3.3.4b). However, as previously noted, it produced no plan, strategy nor policies for implementation.

The seriousness of the situation regarding local authority plans during the 1980s is typified by Reynolds (1981, 52) when she commented "surely a regional view is essential for forward planning (*and local*) strategic plans should properly relate to a plan at a higher level, that is a regional or sub-regional plan, but these plans do not exist". She also went on to argue that "a strategic plan should take into account the provisions of any strategic plan adopted or being prepared for adjoining local authority areas (*claiming that*) it would be a disaster if local authorities adopted different strategies which would lead to planning conflicts in the future". Reynolds considered that a solution lay in the formation of a joint planning committee "to resolve the problems and planning differences as they arise (*and to*) deal with all matters of common interest and concern".

Despite these shortcomings in practice, the Australian Local Government Association (ALGA) was actively encouraging its members to "voluntarily undertake such planning in cooperation with neighbouring Local Councils or on a regional basis" (ALGA,1990:7).

- **A limited strategic planning requirement** - There were no strategic planning requirements for local government until the 1980 amendment to the State's principal planning legislation, the *Local Government Act 1936* as amended. Whilst a number of local authorities had previously had policy and structure plans, there was not a reliable culture nor body of experience with this form of planning and thinking at the regional and local levels in Queensland at this time.
- **No corporate planning requirement** - whilst there was a latent requirement for strategic plans at the local government level, there was no corresponding requirement to achieve the local authority's objectives through an objective process that could bring together collectively, the necessary resources, set priorities and generally coordinate the activities of the local authority. This situation persisted until corporate plans became a mandatory requirement for local government with the passage of the new *Local Government Act 1993*.

- **Limited attempts at coordination and an absence of cooperative and collaborative efforts** - One of the earliest commentators to raise the issues of coordination of policy in urban planning in Australia was Neutz (1978: 225), when he stated, "the record of serious attempts at coordination is not long, but assessment of their success is difficult". He went on to consider three options for coordination, namely: (1) coordination through statutory planning and based on statutory planning authorities; (2) coordination through programs and based on a particular functional program; and (3) coordination through special-purpose government machinery and based on special-purpose coordinating bodies.

The post 1993 mandatory requirement for local government to prepare corporate plans was an attempt to improve internal coordination. Externally however the situation remained unchanged as there was no requirement for local plans to be prepared under the umbrella of a higher order plan such as a regional plan. Of the pre SEQ2001 situation (ie pre 1993 RFGM), Low Choy and Minnery (1994: 200) noted that "coordination between local authority plans was at best ad hoc, at worst non-existent".

- **Lack of focus on the ecosystem and catchment as a basic unit of planning and management** - Laut and Taplin in a review of catchment management in Australia during the 1980s, concluded, "it was clear that catchment management in Australia is immature and in a state of flux however there is considerable interest in, and very healthy experimentation with approaches to, and organisational structures for, catchment management in all states" (Laut and Taplin, 1988: Preface).

Mitchell (1991: 8) sums up this early situation stating, "integrated catchment management remains a vague and ambiguous concept for many people ICM is much like the concept of 'sustainable development'. Intuitively, most people can relate to the basic idea, but it is difficult to translate it into operational terms".

The potential for statutory urban and regional planning to provide opportunities to address the then emergent water quality and associated issues was also in question. The Australian Water Resources Council Planning Committee considered that "the appropriateness of this (*statutory*) mechanism in synthesising land and water resource management and the extent to which such documents reflect this aspect of environmental management warrants further investigation" (Social & Ecological Assessments Pty Ltd, 1987: vii). In respect to the local situation of that time, they noted "there is no formal policy for the integration of land and water use management in Queensland" (Social & Ecological Assessments Pty Ltd, 1987: 28). This unclear situation between statutory and catchment planning is further explored below.

- **Ad hoc to poor focus on environmental planning and management** - Bowman (1979: 44/45) sums up the local position at this time thus, "Queensland's distinctive social, political and economic needs and traditions are reflected also in other unique administrative arrangements related to planning. Alone among the Australian states, Queensland has neither a planning authority nor a separately constituted environmental control agency at state level on the other hand, local government is unusually important they alone have the responsibility for statutory planning". Low Choy and Minnery (1994: 202) support this view, commenting, "the political clout of local authorities, in town planning terms, under the previous and the current state administrations has remained high". McKenna et al (1990: 143) provide additional support for this view when they conclude "local authorities have considerable autonomy with respect to town planning (*the*) decentralised approach to the administration of environmental legislation (*means that*) decision-making authorities have considerable autonomy in deciding whether projects falling under their control should undergo environmental impact assessment".

This period was also characterised by a lack of (eco)systems appreciation and consequently there was an absence of a holistic approach to environmental planning and management. For example, the State's first balanced and comprehensive definition of the 'environment' did not appear in planning legislation until the introduction of the new *Local Government (Planning and Environment) Act 1991*. Queensland also lacked state level policy such as a State Conservation Strategy, which could have provided guidance and direction to local government on these important matters at this time.

This situation persisted despite the extensive range of regional level environmental management challenges that were identified in the 1990 community based SEQ Regional Growth Management forums previously discussed in Section 3.1.3.

Low Choy (1992) demonstrated the ad hoc nature of environmental policy development at local government level at that time, which was largely fragmented, topic specific and uncoordinated and unconnected to the main means of decision-making then in existence. He went on to call for future statutory planning endeavours to be informed by a corporate planning process and local authority specific environmental audits, with the latter being expressed in State of the Environment Reports (SoER) and Local Conservation Strategies (now LA21 Strategies). The introduction of the stand-alone EIA requirement through the original planning legislation provides a further example of the ad hoc nature of environmental considerations at that time (see Section 3.3.5a).

- **Unclear relationship between catchment planning and statutory planning** - The 1988 Australian Water Resources Council (AWRC) workshop focused on integrated catchment management in Australia. In respect of the Queensland position of that time, it was reported that the State was working towards the preparation of a strategy for the implementation of ICM. However, the State government did not introduce an ICM policy until the end of 1991. In the absence of an official policy or stated position, the Queensland position presented to the workshop suggested that: a non-regulatory approach was favoured; maximum community participation would be sought; statutory planning mechanisms were considered unnecessary if a high level of community cooperation was achieved; coordination between local authority planning and community based land use management should be undertaken by the State government with local issues handled by local authorities and local groups; local authorities were considered unlikely to have access to the required expertise for ICM (interestingly it was noted that the worst possible outcome was if enthusiasm outstripped the knowledge bank); and there was uncertainty on the applicability and appropriateness of various statutory planning mechanisms and tools that existed at that time for achieving ICM (AWRC, 1988).

Hegerl et al (1990: 427) provide further evidence of the challenges facing SEQ at that time when they comment, "the pre-eminent issues that emerges in reviewing the management options for the Brisbane River is the need for integrated management of the total catchment. To attain this goal we will need to achieve far better cooperation amongst all levels of government. This will require new initiatives in interdepartmental and intergovernmental dealings and in the way that governments in Australia relate to the concerns of the community".

Appendix 3.2 provides an outline of developments in statutory and regional planning in Queensland. It provides an insight into the evolution of strategic and regional planning thinking by successive state governments, particularly over the decades before and after the establishment of the Logan-Albert case study. Thus it can be concluded that the establishment of the Logan-Albert initiatives at the turn of the 1990s could be seen as an initiative ahead of its time and without official support from the planning and institutional policies and practices of that time, especially from higher levels of government.

7.2.4 Chronological Context of the Case Study

In order to benchmark the individual events and outcomes of the case study and to relate these activities to the wider setting, a chronological context has been assembled showing selected major milestones relevant to the case study (see Figure 7.2 and Table 7.2). This chronology allows a visual comparison of Logan-Albert events against other major events and initiatives related to: the catchment; local government in the catchment; the SEQ region; state planning;

state environmental management; and other important state based initiatives. Figure 7.2 also illustrates major aspects of the political context of the case study duration by the inclusion of the various three year political cycles of local government elections along with the various State government administrations that oversaw planning and landscape management events and initiatives during this period. These external elements had an influential role in shaping events and outcomes in the case study. Their inclusion for consideration at this stage recognises the important role that they played.

Also depicted in Figure 7.2 are the cooperative planning phases of the generic Collaborative Planning Model (CPM) previously described and discussed in Section 5.3.4b and Table 5.4. Modified and reorganised phases that will be shown to be relevant to the specific term of the Logan-Albert case study are also depicted on Figure 7.2. These cooperative phases specific to the case study are discussed below in Section 7.3.

This section and the contents illustrated on Figure 7.2 should also be seen in the wider global, national and state context previously outlined on Figure 3.4. This illustrates that the period of focus for the case study coincided with a period of increased effort in planning and management activities at these higher levels that have previously been discussed in Chapters 1, 3 and 4. This was consistent with the emerging and convergent landscape planning and management paradigms identified and discussed in Chapters 5 and 6. A cascading flow-on effect to the regional level of this case study can be detected which had a consequential effect on activities and developments in the case study area as well.

**Table 7.2: Major Milestones relevant to Logan –Albert Case Study
(refer to Figure 7.2)**

<p>A. Events associated with Logan-Albert Initiative A1 - Inaugural meeting of LRMCC A2 - Inaugural meeting of LRTSG A3 - Inaugural Logan River Week A4 - LRMCC established as sub-committee of SROC A5 - 1st Community River Search Workshop A6 - River Forum A7 - Inaugural meeting of 1st LRCCC A8 - Boonah Shire Council joins LRMCC A9 - Albert River added (LRMCC → LARMCC) A10 - LARMCC resolves to prepare cooperative management strategy for catchment A11 - Inaugural meeting of LAR Teachers Network A12 - 1st Catchment Schools Expo A13 - 2nd LARCCC formed A14 - 2nd Community River Search Workshop A15 - Web site comes on line A16 - Merger discussions Logan-Nerang WQMC</p>	<p>D. Regional Events D1 - GCWA abolished D2 - SEQ2001 Regional Planning program commenced D3 - SEQROC Constitution accepted by councils D4 - Moreton Bay Strategic Plan D5 - SouthROC formed D6 - SEQ2001 RFGM published D7 - ROSS/RLS launched D8 - State Waterways Management Plan D9 - BRMG Implementation Program Plans D10 - Moreton Bay Water Quality Management Strategy D11 - Gold Coast Harbours Authority formed D12 - Regional Communities Conference (DCILGP) D13 - "Testing of the Waters" - report on quality of Queensland water (DNR/EPA) D14 - SEQRWQMS draft (Stage 2) D15 - Natural Resource Management Strategy for Moreton Bay</p>
<p>B. Catchment Events B1 - 2020 Vision conference - Logan & Albert Conservation Association - Beaudesert B2 - Logan Coomera South Moreton Bay RWMS B3 - Davis Gelatine lodge development application with BDSC B4 - LCC approves Riversands sandmining application B5 - Davis Gelatine win appeal B6 - QWRC announce weir sites for Logan- Albert R B6 - World Heritage Listing for Scenic Rim B7 - Davis Gelatine prosecuted and fined * Logan River Week (with National Water Week)</p>	<p>E. State Planning Initiatives E1 <i>Local Government (Planning and Environment) Act 1990</i> E2 - Fraser Island Inquiry E3 - SPP "Development & Conservation of Agricultural Lands" E4 - Corporate Plans mandatory for local government E5 - PEDA Planning Bill E6 - SPP "Koala Coast" E7 - <i>Integrated Planning Act 1997</i></p>
<p>C. Local Government Initiatives C1 - BSC Town Plan gazetted C2 - GCCC Town Plan gazetted C3 - GCCC Strategic Plan gazetted C4 - LCC Strategic Plan gazetted C5 - ASC Strategic Plan gazetted C6 - ASC Town Plan gazetted C7 - Amalgamation of ASC and GCCC C8 - BSC Strategic Plan gazetted C9 - BDSC Strategic Plan gazetted C10 - LCC Town Plan gazetted C11 - RSC Strategic Plan gazetted</p>	<p>F. State Environmental Initiatives F1 - Marine Parks Regulations F2 - Queensland ICM Strategy F3 - Queensland Decade of Land Care Plan F4 - <i>Nature Conservation Act 1992</i> F5 - <i>Queensland Heritage Act 1992</i> F6 - <i>Environmental Protection Act 1994</i> F7 - First Queensland WAMP program F8 - <i>Coastal Protection and Management Act 1995</i> F9 - Marine Parks Moreton Bay Zoning Plan F10 - EPP (Water) F11 - Environmental Protection Regulations</p>

7.2.5 The Land Tenure Context for Landscape Management

The precise nature of the planning landscape in which Queensland planning practices are being applied to meet statutory and advisory requirements will vary, according to the nature of the land tenure, the land ownership pattern, and the ability to apply various statutory, non-statutory or non regulatory management mechanisms that are available. Essentially this complex and

duplicating arrangement has previously been discussed, see Section 3.3.6c and Figures 3.5 and 3.6. The general situation across the regional and state landscape is graphically outlined in Figure 7.3.

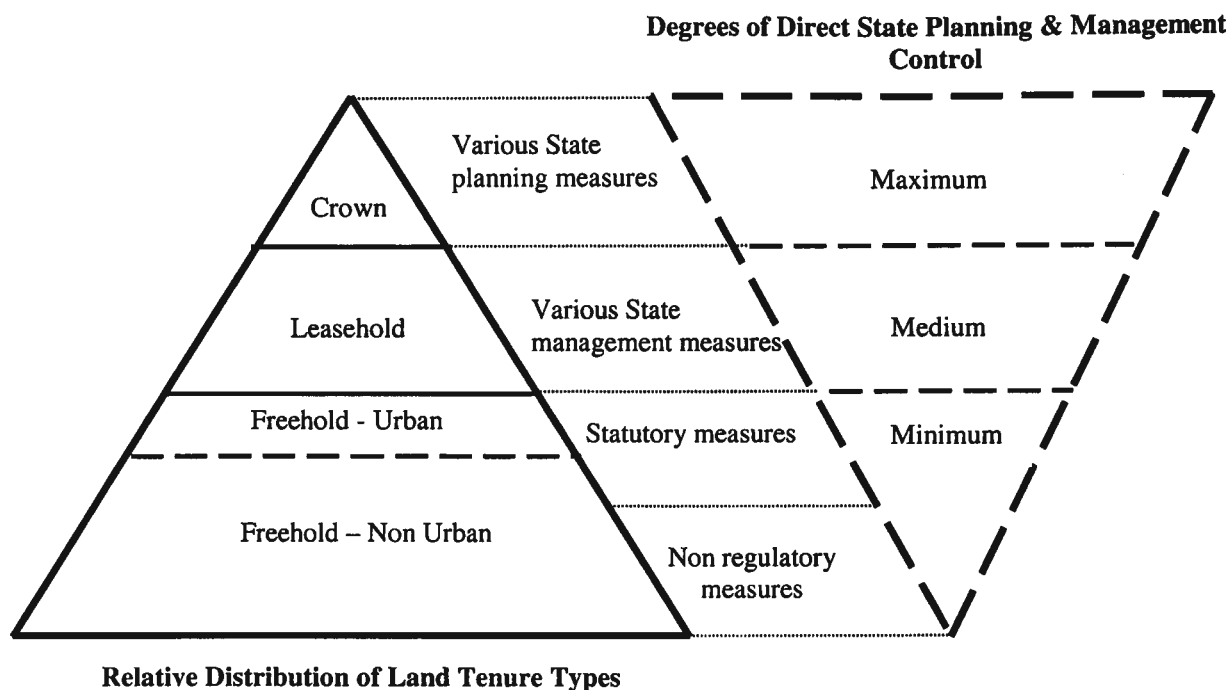


Figure 7.3: Relationship between Land Tenure and State Planning and Management Control

Figure 7.3 demonstrates the relative distribution of land tenure types in a general sense throughout Queensland, with similarities to the SEQ regional context. The majority of land is held under freehold tenure compared to relatively smaller proportions in leasehold and yet smaller areas as crown tenure to the extent that some 84% of SEQ is freehold tenure (RLSAC, 2001).⁴ As indicated, the degrees of direct State control over planning and management matters is indirectly proportional to these land tenure arrangements. The interlinking commentary of Figure 7.3 indicates the general form and nature of the planning and management arrangements for various land tenure types in question. In the case of State owned (crown) or controlled land (leasehold), the State, through its various agencies, has a direct influence over planning undertakings and management arrangement for land held under those tenure types. In the case of freehold lands, State control is either delegated to local government, as in the case of town planning responsibilities, or it is absent. In the latter case there may be a range of voluntary and non-regulatory mechanisms developed, some in collaboration with industry groups, through which the State is attempting to achieve its environmental outcomes. In the case of the delegated town planning responsibilities, planning and management mechanisms will only apply to freehold land in a particularly local authority area and then some land use activities

⁴ Within the Logan-Albert catchment, 90% of all riverside land is freehold.

may fall outside of the control of the planning scheme and its various planning tools (eg most farming practices). Hence, given this state of affairs, it is critical for any attempt at integrated landscape planning and management, that a cooperative approach be sought in order to bring together all of these influences, resource and landscape management groups, and other interested parties and stakeholders.

7.3 CASE STUDY EVALUATION FRAMEWORK

Gray (1989: 55) acknowledges that "whilst there is not a clearly prescribed pattern that characterises every collaboration, there appears to be some common issues that crop up repeatedly and conform to a general sequence independent of the specific circumstances and content of the negotiations". To this end she has articulated a series of elements in three phases for collaborative activity (see Section 4.1.4). Margerum has used this generic collaborative planning model (CPM) for a comparative analysis with other similar approaches (see Section 5.3.4b and Table 5.4).

The schemas reviewed and advanced by Margerum and other authors provide a useful means to consider and assess these elements of cooperative activity. In addition, the generic model does provide a useful framework for assessing the case study, and it makes for ease of comparison and for the provision of pertinent commentary.

Consequently, Table 7.3 extends Margerum's previous CPM comparative analysis (Table 5.4) with the addition of comparison against the principal elements of the Logan-Albert case study's cooperative experience

However, as will be discussed in subsequent sections, the cooperative events related to the case study differed in a number of ways from the generic CPMs phases and their elements as detailed in Table 5.4. The differences were most noticeable in terms of their sequence of occurrence, in their groupings within the CPM phases as shown, and also in their relative prominence within the overall collaboration model. Many elements in fact occur and re-occur throughout the life of the case study and they exist through a number of the phases and may even experience changes over time.

Table 7.3: Comparison of LARMCC Model against other Collaborative Planning Models

Phase	Susskind & Cruikshank (1987)	Gray (1989)	Julian (1995)	Selin & Chavez (1995)	Logan-Albert Case Study
Planning: Problem-Setting	<ol style="list-style-type: none"> 1. Get process started 2. <i>Identify and select representatives</i> 3. <i>Draft protocols</i> 4. <i>Set agenda</i> 5. <i>Conduct joint fact finding</i> 	<ol style="list-style-type: none"> 1. <i>Develop common definition of problem</i> 2. Commit to collaboration 3. <i>Identify stakeholders</i> 4. <i>Establish legitimacy of stakeholders</i> 5. <i>Establish a convener</i> 6. <i>Identify resources</i> 	<ol style="list-style-type: none"> 1. <i>Identify focal organisation</i> 2. <i>Identify collaborative planning group</i> 3. <i>Secure financial resources</i> 4. <i>Appoint a facilitator</i> 5. <i>Specify problem/issues</i> 6. <i>Assess capacity and identify stakeholders</i> 	<ol style="list-style-type: none"> 1. Recognise interdependence 2. <i>Identify stakeholders</i> 3. <i>Reach consensus on legitimate stakeholders</i> 4. <i>Identify common problems</i> 5. Identify perceived benefits and salience to stakeholders 	<ol style="list-style-type: none"> 1. Identify stakeholders & potential collaborative planning group 2. Establish focal organisation 3. Establish a convener (Appoint a facilitator) 4. Identify common problems/issues 5. Assess capacity of stakeholders 6. Identify and secure resources 7. Draft protocols, modus operandi and establish ground rules 8. Set agenda
Planning: Direction-Setting	<ol style="list-style-type: none"> 1. Invent options for mutual gain 2. Package agreements 3. Produce a written agreement 4. Bind parties to their commitment 5. Ratify agreement 	<ol style="list-style-type: none"> 1. Establish ground rules 2. Set agenda 3. Organise subgroups 4. Conduct joint information search 5. Explore options 6. Reach agreement and close the deal 	<ol style="list-style-type: none"> 1. Establish neighbourhood collaboration process 2. Define system goals 3. Document process 4. Specify outcomes 5. Define intervention model 	<ol style="list-style-type: none"> 1. Establish goals 2. Set ground rules 3. Conduct joint information search 4. Explore options 5. Organise subgroups 	<ol style="list-style-type: none"> 1. Confirm agreement & agree TOR, 2. Confirm goals and objectives 3. Organise subgroups 4. Conduct joint fact finding 5. Explore options 6. Reach agreement
Implementation	<ol style="list-style-type: none"> 1. Link informal agreements to formal decision making 2. Monitor 3. Create context for renegotiation 	<p>Deal with constituencies</p> <p>Build external support</p> <p>Structure implementation</p> <p>Implement</p> <p>Monitor the agreement and ensure compliance</p>	<ol style="list-style-type: none"> 1. Specify organisational agreements 2. Implement activities & programs 3. Measure outcomes 	<ol style="list-style-type: none"> 1. Formalise relationships 2. Assign roles 3. Elaborate tasks 4. Design monitoring and control systems 	<p>Formalise relationships</p> <p>Monitor</p> <p>Evaluate</p> <p>Report back</p> <p>Renegotiation</p>

Based on Margerum, 1999c

In order to more accurately report and analyse the cooperative activities of the case study, an enhanced cooperative planning model has been tentatively developed for the purposes of this study. It has been titled the Logan-Albert cooperative planning model (L-A CPM) and is described below⁵. The L-A CPM brings together the case study elements from Table 7.3 into a more specific cooperative planning model that accounts for the previously accepted phases as well as acknowledging the importance of the original motivation for the initiation of the cooperative effort.

Just as the cooperative actions or elements and their sequence can differ, so too can the nature of the phases, depending especially on how the motivation to collaborate was initiated. Gray (1989) suggests that this could range from being induced by conflict or by a shared vision concerning the problem. Selin and Chavez (1995) recognise a broader range of 'antecedents' that were discussed in Section 5.3.4b. The experience with the Logan-Albert initiative (see Section 8.1) supports this view and suggests that there must be a heavy investment up-front in order to provide a solid foundation from which to embark upon a cooperative venture, especially of a planning nature. Gray (1989) considers that it is essential for the initial phase of any collaboration to call attention to the advantages and necessity for that collaboration. It has previously been noted that this view was shared by Hooper et al (1999) who consider that demonstrating the need, scope and content for an integrated approach would improve IREM (see Section 5.3.4b).

The application of the 'Problem Setting' phase of the CPM to new situations such as the Logan-Albert case study, without the benefits of precedents and useful examples to cite for guidance and confidence building, can experience extensive time delays in the formation and gestation processes of the potential partners. Many tasks associated with this phase have to be repeated and recycled. The L-A CPM acknowledges the potential extended period required to successfully complete these tasks by recognising two distinct phases in this instance, a 'Formative' phase and a 'Gestation' phase.

Other major points of departure of the Logan-Albert initiative from the generic CPMs and other models summarised in Table 5.4 and Table 7.3, lie in the distinction given to the actual business end of the cooperative planning activities and also to implementation aspects. The principal focus of the generic CPMs is to get to the point of collaboration. Whilst all the generic CPMs correctly acknowledge the importance of implementation aspects – the forgotten element of the planning process (see previous discussion in Section 5.3.4c), none have gone so far as to accord

⁵ The acronym 'CPM' has been used in the literature to denote Margerum's (1999c) generic collaborative planning model (CPM). The continued use of this acronym in this instance acknowledges that 'cooperation' and 'collaboration' are inextricably linked and can be variations of each other as previously defined by the working definition of cooperation – see Section 4.1.1.

this element separate and discrete distinction as a phase in its own right. Nor is there sufficient recognition for the review and learning processes associated with an adaptive management approach. In recognition of the importance of the actual cooperative planning tasks that would normally be followed through in an implementation phase, the L-A CPM corrects this oversight by highlighting a separate 'Implementation and Review' phase.

To these ends, the model that best describes the Logan-Albert initiative and best suits the analytical tasks of this study, includes six distinct phases where the 'demonstration of need' for the cooperative initiative and the 'cooperative planning business aspects' have been accorded separate status along with the continued highlight of the important elements of 'implementation and review'. The traditional CPM phase of "Problem Setting" has been further delineated into two separate phases acknowledging the distinction between actual formative activities from those associated with growth (gestation). These variations from the generic CPM establish the L-A CPM as a six-phased model. The L-A CPM is outlined in detail in Figure 7.4.

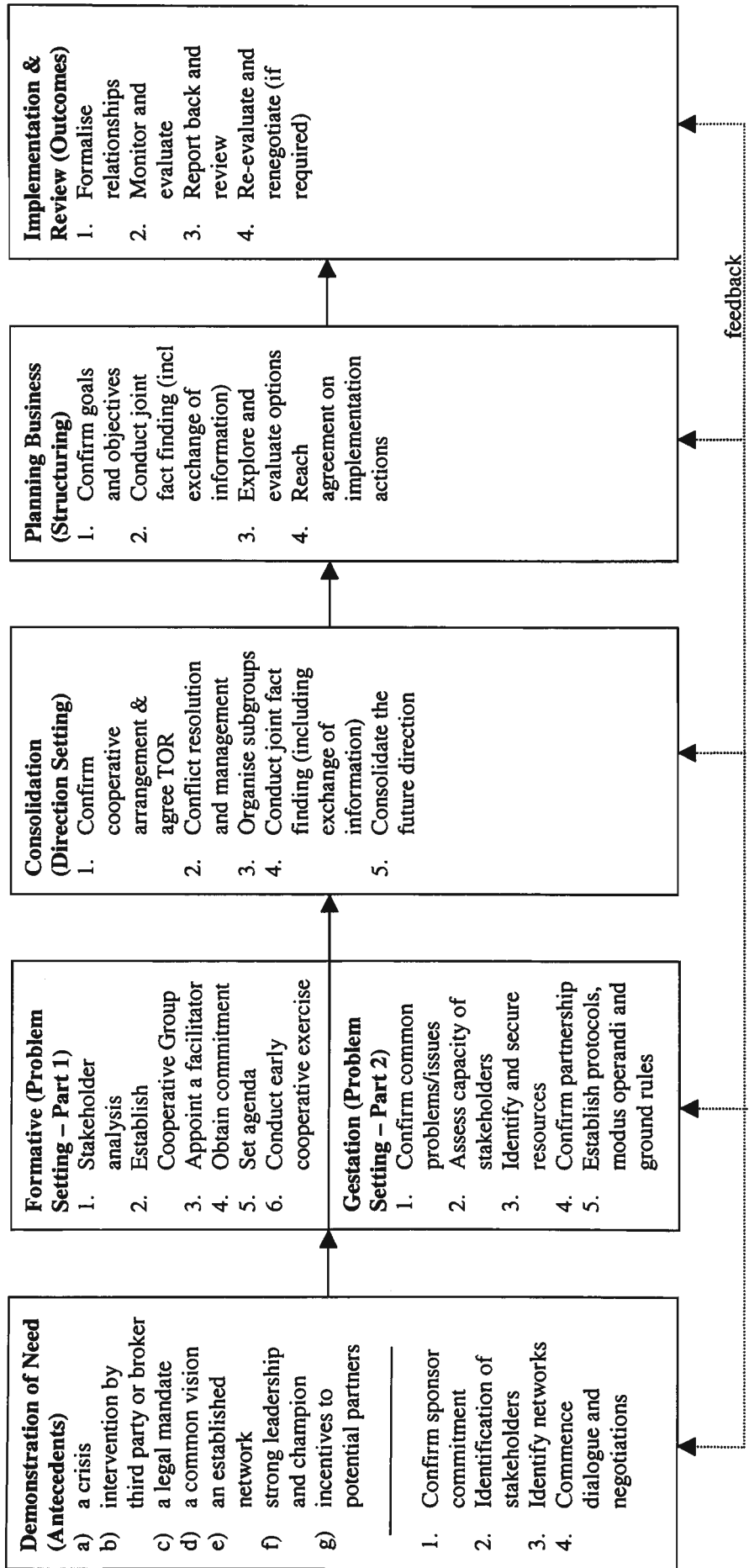


Figure 7.4: Logan-Albert Cooperative Planning Model (L-A CPM)

Based on Gray, 1998; Selin and Chavez, 1995; Borri-Feyerabend, 1999

This six phase cooperative planning model for the case study (L-A CPM) accords more closely to that proposed by Selin and Chavez (1995) than to others that are examined in Table 7.3. Its tentative development and articulation at this point is for the purposes of describing and analysing the cooperative activities of the case study in subsequent chapters. This analysis can also test its validity and suitability as a descriptive model of cooperative planning at the regional level. Thus the relevant phases of cooperative planning for the Logan-Albert case study include:

Demonstration of Need Phase (Antecedents): a preliminary phase involving the demonstration of the need for cooperative action. Embraces the 'antecedents' of Selin and Chavez (1995);

Formative Phase (Problem-setting- part): preparing for cooperative effort and the partnership through bringing together the potential stakeholders and obtaining their commitment for preliminary exploratory cooperative efforts, together with the development of the infrastructure to facilitate the collaboration;

Gestation Phase (Problem-setting- part): further and more detailed levels of cooperative efforts, together with the further development of the infrastructure to facilitate the collaboration. Essentially settling in the process and the procedures;

Consolidation Phase (Direction-setting): developing the cooperative agreement involving the identification of problems, exchange of information, conflict resolution, agreement on common goals, reaching consensus, and the identification of planning actions;

Planning 'Business' Phase (Structuring): a true cooperative planning phase involving the confirmation of agreed planning goals and objectives through to the evaluation of derived options and the achievement of consensus and agreement on implementation actions. This phase includes steps of the conventional 'Direction-setting' phase; and

Implementation and Review Phase (Outcomes): specification of actions, roles and tasks by stakeholders; implementation actions including monitoring, evaluation and the measurement of outcomes to review the original cooperative agreement and where necessary to renegotiate. Includes an important individual and corporate learning component for the participants.

The dynamic and cyclic nature of collaboration has been acknowledged by a number of authors including Selin and Chavez (1995), also Borrini-Feyerabend, (1999). The Logan-Albert case study has also experienced the influences of the dynamic and cyclic nature of its cooperative processes and consequently the L-A CPM formally acknowledges the existence of these feedback processes by their reflection in Figure 7.4.

By-and-large the model outlined in Figure 7.4 provides a generic guide to the essential steps and phases of a cooperative planning and management undertaking that starts from a 'zero' base. Whilst the individual steps within each of the phases are reported here in a certain order, they are not always undertaken sequentially and their sequence of reporting may bear no reflection

on their actual sequence of occurrence. Many are also concurrent activities. Again, the individual phases are not as neatly compartmentalised as Figures 7.2 and 7.4 would suggest. Many steps of these phases merge into the other phase and some in fact re-occur throughout the cooperative sequence.

A temporal comparison of the cooperative phases of the Logan-Albert case study against those of the generic CPM is provided in Table 7.4. This comparison has previously been illustrated in the chronological context of the case study in Figure 7.3.

Table 7.4: Comparison of Logan-Albert Case Study and CPM Phases

Logan-Albert Phase	Period	CPM Phase
Demonstration of Need	end 1985 to early 1989	Antecedents
Formative	early 1989 to early 1991	Problem Setting
Gestation	early 1991 to early 1994	
Consolidation	early 1994 to early 1997	Direction Setting
Planning 'business'	early 1997 to early 2000	Structuring
Implementation & Review	early 2000+	Outcomes

8.0 THE LOGAN-ALBERT CATCHMENT CASE STUDY - Evaluation of a Paradigm Shift in Practice

This chapter examines the three themes of the research question through the testing of the CPM in terms of the cooperative experiences related to the Logan-Albert initiative. It also compares these local experiences against the theoretical concepts documented in the literature thereby adding to our understanding of these concepts.

The Logan-Albert cooperative planning model (L-A CPM) has been utilised to describe and analyse the cooperative activities of the case study. The six phases and their constituent elements that make up the L-A CPM (see Figure 7.4) provide the structure for this chapter.

8.1 DEMONSTRATION OF NEED

This preliminary phase embraces what Selin and Chavez (1995) identified as their 'Antecedents' or the environmental context out of which collaboration emerges. Essentially it is where the problem is first identified and defined in a preliminary sense in order to convince others that their participation in a cooperative and collaborative arrangement is essential. Quoting Waddock (1989), Selin and Chavez identify seven forces that can lead to collaboration, namely: a crisis; the intervention by third party or broker; a legal mandate; a common vision; an established network; through the efforts of a strong leader or champion; and/or through the provision of incentives to potential partners. In a cyclic fashion, these antecedents can re-occur for other issues throughout the entire cooperative planning phases.

Essentially this preliminary phase involves problem definition and getting others to the table in order to get them to sign up for a cooperative effort. Gray (1989: 56) acknowledges the importance of this phase when she states "gaining agreement amongst stakeholders to experiment with collaboration was as critical a step as the actual negotiations".

To gain an insight into the factors and forces at play during this preliminary phase, a three-fold examination of the case study can be completed focused on events within:

1. Logan City Council;
2. Logan City; and
3. Logan River catchment as-a-whole.

This preliminary phase commenced with the previously mentioned presentation of the "Adjacent Shires Cooperation Policy" of the 1985 *Watercourse Management Strategy* to the

Logan City Council (LCC), and extended for some three years to the first inaugural meeting of the LRMCC in March 1989. The principal events of significance are illustrated in Figure 8.1.

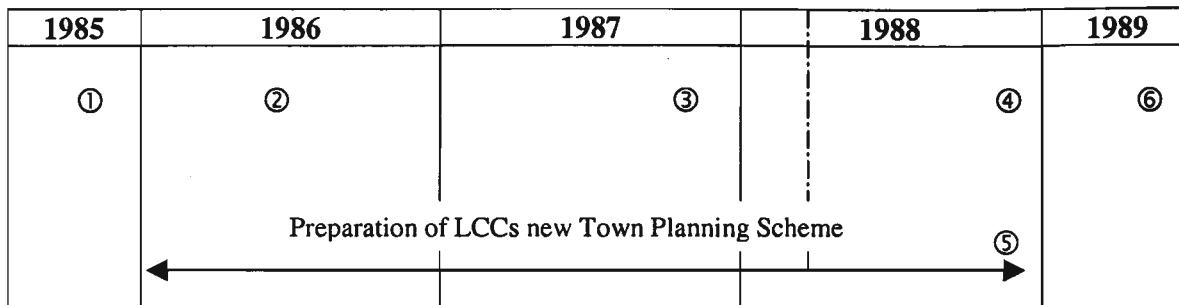


Figure 8.1: Demonstration of Need Phase

KEY	
-----	Local Government Elections (March)
①	Presentation of <i>Watercourse Management Strategy</i> to LCC (November)
②	<i>Watercourse Management Strategy</i> adopted as policy by LCC (mid 1986)
③	Preliminary meeting to discuss need for a cooperative approach (October)
④	Initial agreement to establish cooperative arrangement (December)
⑤	<i>Watercourse Management Strategy</i> incorporated into 1988 Strategic Plan (December)
⑥	Inaugural meeting of LRMCC (March)

8.1.1 Events within Logan City Council

Internally within the council context the 'antecedents' of influence included the following:

<u>Antecedent</u>	<u>Example</u>
1. Third party intervention or broker	Researcher's role in overseeing the preparation of <i>Watercourse Management Strategy</i> together with his membership of Environmental Advisory Sub-Committee
2. Common vision	Shared by all members of the Environmental Advisory Sub-Committee
3. Established network	Existing formal and informal structure and organisation of the Council (particularly its committee structure used for decision-making)
4. Strong leader or champion	Politician - Alderman X Officer - Council's Senior Planner

In any large organisation, there are many levels of bureaucracy in operation and the traditional public sector organisation is very much sectionalised and compartmentalised. This was particularly the case in Logan City Council in terms of both its political arm (eg the council operated along committee lines) and the bureaucracy (eg it was comprised of separate

departments where the town planning and development department was separate from engineering, health etc). Bridging both of these levels was the Environmental Advisory Sub-committee that was comprised of both elected and non-elected members with council officers in support. It met regularly every two months and reported to the Council's (politically) powerful Town Planning and Development Control Committee. Senior council officers from the main council departments regularly attended meetings of the Sub-committee and on request provided briefings to its members.

The formal operational role of Alderman X who championed the Logan River management cause within Logan City Council is illustrated in Figure 8.2. He chaired the Environmental Advisory Sub-Committee that officially took up the cause to have the Logan City Council facilitate the pursuit of a cooperative arrangement for river management. Besides being able to participate in full Council debates as a member, he was also a member of the Town Planning and Development Control Committee which made recommendations to the full Council. Consequently, he was able to perform a continuity role as recommendations to adopt the various provisions of the *Watercourse Management Strategy*, which originated from the Environmental Advisory Sub-Committee, worked their way up through the machinery of local government to their eventual adoption by the full Council as policy. He would later comment that he was surprised at the ease that he was able to secure the support of his fellow Aldermen, particularly the Mayor, and that they essentially took him on trust to organise and advance this initiative on their behalf. Local government Aldermen at this time operated on a part-time basis. Despite having a sympathetic planning staff in support, this process still took over six months to advance through the process of local government. As will be noted later, the Council's Senior Planner at this time also championed this cause both within Council and within the informal regional grouping of local councils. The Senior Planner was also in attendance at all of the levels of council decision-making illustrated in Figure 8.2.

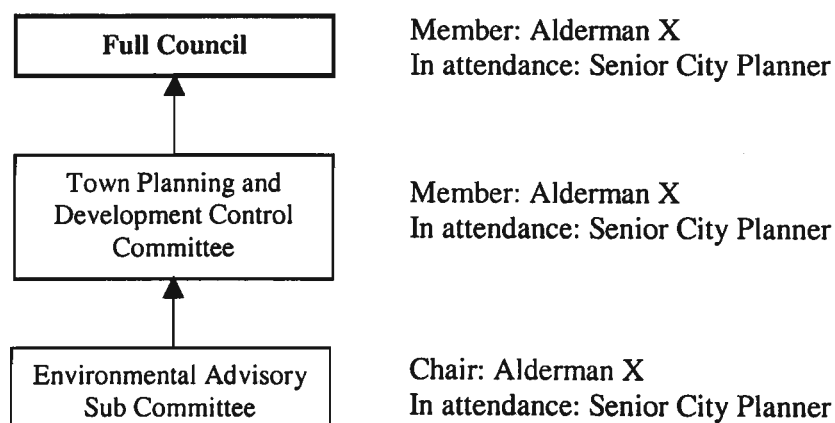


Figure 8.2: Formal Operational Role of Logan River Management Champions

Logan City Council's new Town Plan was gazetted in December 1988. This process had taken a number of years to complete and it coincided with this 'Demonstration of Need' Phase. Subsequent to its formal adoption as policy by the Council in mid 1986, the provisions of the *Watercourse Management Strategy* found their way into the statutory town planning documents as a policy in the Strategic Plan. It appeared under the Environment Objective "to protect and enhance the non-urban and built environment" and read:

"As far as possible, the Logan River will be protected from industrial waste and sewerage effluent pollution and from any development which may have an adverse affect on the visual amenity and water quality of the river, by the development control process and the implementation of Council's Watercourse Management Strategy." (QGG, 1989: 1728).

However, as there was no mechanism to address the wider catchment issues at this time, there was no specific reference to these regional-scale issues in the planning documents. The city planner understood this constraint and knew that it could only be achieved through a cooperative approach. His subsequent actions and activities within the wider catchment context are examined below.

The external-to-Council activities of Alderman X are also examined below in further detail. His motives he claims were based not on political grounds but on his background as a professional environmental consultant. He saw the need to apply a holistic systems approach to future management for the river. He also argued that the political level was incapable of sustaining a long-term relationship and therefore it was critical for the permanent council staff to become involved and fully engaged.

8.1.2 Events within Logan City

External to Council but internal within the local government area of Logan City, other sets of factors were at play. The 'antecedents' of influence in this case included:

<u>Antecedent</u>	<u>Example</u>
1. Common vision	Shared by a number of political candidates in the 1988 local government elections and the interest groups that they represented
2. Established network	Existing formal and informal communications within the city (supplemented by election networks)
3. Strong leader or champion	Political aspirants

The major event that was to draw the river issues into it as well as project them onto the public stage was the 1988 local government election that was held in March. The river became an election issue, in particular, the management of lands adjacent to the river, subdivision approvals along the river and within the floodplain, and public access to the river and its foreshore. Whilst presented in typical election style and purpose, newspaper reports of this period illustrate the multi-partisan support for a more formal river management approach:

**Unsuccessful Labor
Mayoral candidate:**

Council 'giving away public rights of river access'

".... the Labor Mayoral candidate has challenged the city's mayor and alderman to declare if they believed that the public should have access to the Logan River"

A&LN, 25 Nov 87

**Successful Liberal
candidate:**

Libs want to make a greener Logan

".... the Liberals would also follow up initial approaches made by the present council late last year for a Logan River Joint Waterways Authority with Redland, Albert and Beaudesert shires concerning pollution"

A&LN, 11 Mar 88

**Successful Independent
Alderman seeking re-
election:**

Malicious politics (Letter to Editor)

".... this council has adopted a Watercourse Management Strategy. To say that the environment has been neglected is a rather pathetic statement"

A&LN, 30 Sep 87

The focus for public attention and concern centred on the Logandale development that was adjacent to the Logan River at Loganholme. The public opposition to this development was led by Mrs Z who eventually stood for election as an Alderman in the 1988 election and won. She stood on an environmental platform with the Logan River issues as the central plank. She would later describe the Logan River as "a hidden asset (*claiming that*) Logan only had one asset - the RIVER!". Consequently, the post 1988 Council now had two strong river champions within its ranks of 10 Aldermen and Mayor.

In the meantime the preparation of the Council's new Town Planning Scheme continued and when it went on public exhibition during 1988, the *Watercourse Management Strategy* accompanied it as supporting information and policy.

8.1.3 Events within the Logan River Catchment

Within the wider catchment context, the 'antecedents' of influence included:

<u>Antecedent</u>	<u>Example</u>
1. Common vision	Shared by a few senior planners in the local authorities in the catchment
2. Strong leader or champion	Corporate - LCC Politician - Alderman X (LCC) Officer - Senior Planner (LCC)

As previously noted in Section 7.2.3, conditions at this time did not favour the thrust and intent of the *Watercourse Management Strategy's* "Adjacent Shires Cooperation Policy" and the LCCs advocacy for a cooperative approach to river management. The role that Logan City Council played, collectively as a council and individually on the part of certain Aldermen and senior council staff, as champions of this cause was pivotal. The council had the resources, connections and infrastructure to pursue the initiative.

From mid 1987 a series of press releases from both the LCC Mayor and Alderman X emerged, presumably with the purpose of pre-empting the forthcoming October meeting of the catchment local authorities and pressing home to the other councils the need for a cooperative approach. Typical of these press releases were the following statements.

Mayoral statement: *Move to monitor river's pollution*
"Pollution in the Logan River could force local authorities in the area to form a water authority to monitor the situation. Logan City Mayor Ald Fred Huntress said the authority would be responsible for promoting the recreation use of the river and directing development in the future the Logan River affects the Logan, Albert, Beaudesert and Redland Shires if there is consensus between the councils, a joint authority is a possibility to keep the river beautiful and make plans for its future use it is in the interest of all councils to form some sort of policy for its management"
LCE, 14 Jul 87

Alderman's Press release: *Four councils agree to joint water authority*
"The Logan River could undergo the same type of transformation as the Thames River under the control of a Logan River Joint Water Authority made up of Logan, Albert, Beaudesert and Redland councils the river will be cleaned up and turned into a recreational oasis for future generations delegates from the four councils would meet in October to discuss the setting up of the authority"
A&LN, 26 Aug 87

The mention and linking of the Logan River with "pollution" can be inferred as a crude attempt at the creation of an antecedent in the form of a pseudo crisis. This was despite the release of a

water quality report on the Logan River that same year which stated: "the water quality of the Logan River remains good (*and that*) the recreational use of the Logan River has increased markedly since the 1977 study" (DLG, 1987: ii). The other point of significance contained in these public statements relates to the call for a 'Water Authority'. In the light of previous discussions related to the staunch opposition of local government to any proposal that threatened their autonomy and power base, this is a complete puzzle. There is no mention of such a proposal in any documentation (reports, minutes of meetings etc), nor did it exist in the minds or proposals of the Environmental Advisory Sub-Committee. It would appear that such a proposal came out of nowhere and can be attributed to the Mayor. Whether it spurned the other local authorities into cooperative action is difficult to gauge but based on comments from past senior political figures from those councils, it is doubtful but not inconceivable.

An explanation of a motive for these unilateral public statements possible relates to the forthcoming local authority elections and the need for the local politicians to articulate election issues and platforms and for the express purpose of generating basic publicity for their forthcoming campaigns. The 1988 election also helps to explain the decision making hiatus which led to the long delay between the initial exploratory meeting of potential stakeholders hosted by LCC in October 1987 and the next meeting some fourteen months later in December 1988 which confirmed arrangements for a formal cooperative approach.

The "caretaker" convention slows the machinery of government considerably once an election is called and remains so for some time after. This situation is no different in the local government arena. Additionally, if the elections result in a significant change in the composition and membership of the elected council, it can take some time for the normal process of governance to resume. Usually a lot of time and effort is expended on 'jockeying' for positions and negotiating for leadership and membership positions of the most influential committees of the incoming council. This was the case for LCC in the wake of the 1988 election, as the incoming Council comprised some 50% new members.

The initial river meetings and the informal dialogue in between these meetings, together with the efforts of the senior planner, served to allay the fears of local government noted by Hooper et al (1999), of a 'takeover' by State agencies or a loss of their autonomy. At the preliminary October 1987 meeting attended by representatives from Albert (ASC) and Beaudesert Shire (BDSC) Councils, Logan City Council, the Queensland Recreation Council (QRC) and the Gold Coast Waterways Authority (GCWA), the issues of a "Water Authority" had to be put to rest and firmly taken off the agenda. This meeting broadly explored the potential issues facing all local authorities within the catchment, especially the prospects of increased pressures being placed on the river system as a result of population growth and increased urbanisation. LCC

disseminated copies of their *Watercourse Management Strategy*, and it was agreed that a further meeting would be convened in six months time to advance the cooperative management proposal. The meeting's convenor, Alderman X was quoted "it was agreed that tackling such a complex issue requires a long-term strategy and there will be no overnight results the meeting agreed that public education is a major requirement" (A&LN, 28 Oct 87).

While Logan City Council did not need to be convinced of the need to seek their neighbouring local authority's cooperation for joint management of the Logan River, they still confronted the age-old challenge that had plagued closer local government cooperation for decades. Local authorities have always jealously guarded their forward planning intentions on the mistaken belief that this would safeguard their future economic prosperity in order to gain an upper hand on investment opportunities for their area. In fact this attitude of secrecy had worsened with the introduction of formal strategic planning in 1980 which now included a requirement for their forward planning intentions to be expressed in their statutory strategic plans. A culture emerged where local authorities would not consult with their neighbours as they prepared their individual strategic plans in case they gave away strategic economic advantage to these other councils whom they viewed as competitors for the same economic investment funds.

Irrespective of the logically argued and persuasive case for improved coordination of catchment management activities that was made by the "Adjacent Shires Cooperation Policy" of the *Watercourse Management Strategy*, it may have been a different outcome had it been presented to an upper catchment local authority in the first instance. This would have been further exacerbated if that local authority did not face the challenges of the river forming a common boundary with another local authority area. This potential scenario may have had the effect of producing the "free-rider" phenomenon identified by Ostrum et al (1999) see Section 4.1.2. As it was, the upper catchment rural based local authorities of BSC and BDSC did originally take a stance consistent with the second category identified by Ostrom et al (1999). This category comprised those unwilling to cooperate unless assured that they would not be exploited by others who would behave in narrow, self-interested and uncooperative ways - the free-riders. They had a perception that undue demands and controls would be placed on them by the down stream urban local authorities who did not appreciate their rural based situation, circumstances and priorities. A lot of time at these early meetings was devoted to this discussion and at attempts to allay their fears of the potential influence of free-riders downstream. In fact, the discussions and negotiations constantly returned to this issue throughout the entire cooperative process of the case study, especially when new players (eg newly elected representatives) were introduced into the process.

Whilst some degrees of altruism can be recognised on the part of some LCC individuals, the prime motivation behind the other potential partners appears to have been a willingness to initiate reciprocal cooperation in the hope that others will return their trust (Ostrom et al, 1999). They note that under this model, the successful establishment and sustainment of reciprocal cooperation will depend on a relatively low proportion of free-riders.

Unfortunately there were also other potentially negative factors at play. Quoting Rokeach (1973), Brunson argues that "attitudes towards territory, boundaries, and cross-border cooperation are important determinants of the success or failure of cross-boundary stewardship efforts because they influence whether agencies or individuals will enter into partnerships that transcend jurisdictional boundaries, as well as how they behave within those partnerships" (Brunson, 1998: 73). These attitudes are strongly influenced by a person's value system. People are more likely to participate in cross-boundary stewardship if they feel cooperation and a "world beauty" are more important than defensive values. Other likely attitudinal influences are: a person's beliefs about the need for such stewardship; their past exposure to stewardship ideas; their beliefs about how significant others will react to stewardship initiatives; previous personal experience; and the strength of potentially conflicting attitudes towards territorial control.

In the case of the Logan catchment, there were two distinctly different cultures at play, one traditional rural and the other, urbane and threatening to the former. One of the rural Mayors (BDSC) justifies his personal and his Councils initial reluctance to cooperate on the basis of their past experiences. He cited two examples. In the first instance, the State government forced a cooperative partnership on four local authorities for the purposes of biting midge control with an unjustified cost splitting formula which took no account of different sizes of the local authorities in terms of population, revenue nor area. The second unfavourable experience for BDSC related to the creation of Logan Shire in 1978 by the State government. This was achieved essentially by the forced amalgamation of the developed northern portions of Beaudesert and Albert Shires with the latter two councils surrendering plant equipment and personnel to the fledging Logan Shire. Together with personality clashes between the politicians of these local authorities, these previous 'top down' mandated experiences at cooperation would have a negative impact on future attempts at local government cooperation such as that proposed by LCCs *Watercourse Management Strategy*. Consequently, these hurdles together with the previously mentioned "free-rider" perceptions had to first be overcome.

This resulted in a lot of informal "behind-the-scenes" effort being undertaken between the October 1987 and the December 1988 meetings. The influential role of the senior planner from LCC cannot be underestimated. He also performed as the 'gatekeeper' for this action research

project that has previously been discussed in Section 2.3.1. The city planner used his informal regional professional planning networks to advance the cause for the cooperative approach to river management. At this time there were no formal networks of local government, planning focused or otherwise, available in SEQ.

As council business settled in the wake of the 1988 local government election, the promised meeting of potential partners eventuated on 7th December 1988, and again it was hosted by LCC. This meeting was the breakthrough that LCC had been pursuing. It resolved to:

- form a steering committee comprising two members from each participating local authority and the Gold Coast Waterways Authority, one member being an elected representative with the second member being a council officer; and
- establish a working group of technical officers to undertake some specific supportive tasks.

Each of the partners was requested to identify the resources that they could bring into this cooperative process and the river and catchment management problems that they believed should be addresses. The objectives of this cooperative undertaking that were discussed during this meeting included:

1. the provision of a mechanism to improve liaison and coordination between local authorities and relevant government departments;
2. establishment of the necessary coordinating mechanisms to incorporate all responsible bodies and agencies and private sector groups with an interest in the Logan River catchment for the purpose of:
 - collating and disseminating scientific data on the river and catchment;
 - identifying data deficiencies;
 - defining research priorities;
 - initiating and coordinating required research.
3. preparation of a Management Strategy for the entire Logan River and its catchment (LARMCC Minutes, 7th Dec 88).

The LARMCC was established to address a range of issues including policy dialogue and joint agreements such as cooperative plans and policy. Implementation under these circumstances is much more complex as it does not involve conflict (Margerum, 1999c). This preliminary phase resulted in the partners taking their first cautious step towards cooperative management. It including the cooperative arrangements of an ad hoc committee structure, with an agenda along the lines of the objectives described above but in an advisory capacity to the member local authorities. These tasks were to be undertaken along the lines of Margerum's Common Information Set (CIS) where decision-makers would be influenced by shared information. Under this arrangement, stakeholders shared information, provided different perspectives and

analyses, and consequently developed a better understanding of the system (Margerum, 1999c) - see also Section 5.3.4c. Whilst LCC had performed an initial facilitation role, it was nominated to perform a 'lead agency' role for the time being. These initial steps adopted by the LRMCC can be seen in the context of the minimal levels of integrated cooperative management activity – see previous discussion in Section 6.6 (particularly Figure 6.5).

8.1.4 Summary

This review of the Demonstration of Need Phase for the case study has shown that there is never one definitive point in time when all stakeholders will be signed up to a cooperative approach. It changes over time particularly as different partners come on board at various times, each bringing a different set of motives for cooperation. It is not a uniform situation and it requires constant attention particularly after local government elections when the representatives may change and corporate policies may vary from those of the previous administration.

Interestingly, there was an absence of technical knowledge to support the demonstration of need for the cooperative undertakings. There were no scientific studies related to the Logan River and its catchment available to provide evidence to support the case for cooperative action. The only exception was the previously mentioned “Report on Investigations into the Effects of Sewage Disposal to the Logan River” (DLG, 1987), which presented no adverse results for the river and only hinted at future issues in regard to potential increases in recreational use of the river. Similarly there were no crises caused by catastrophic or atypical events (eg fish kills, floods) which could have provided the antecedents for the commencement of cooperative action. The preliminary discussions amongst the Logan-Albert decision-makers did indicate that they and their advisers were inferring potential threats to the Logan River from information available to them related to the Brisbane River system that was very much topical at that time – see Section 3.3.6c.

Cooperative initiatives need to be projected from a firm base in order to properly and efficiently secure the cooperation of other potential partners. The foundations of this base need to be underpinned by a committed sponsor and the more influential the sponsor the better. The crucial role that LCC performed in this regard is testimonial to this essential function and role.

This review has also demonstrated the crucial role that champions played during this early establishment phase at a number of different levels using various networks - political, bureaucratic, institutional and professional. Clearly strong political and officer support and particularly leadership are essential ingredient for success. Existing networks play a crucial role in the dissemination and communication of ideas and for the advancement of initiatives of the nature of the case study. These initiatives need a public forum - a spotlight in order to capture

and retain the attention of politicians and the public alike. Preliminary observations also suggest that proposals such as the Logan -Albert case study need to be embedded into the permanent structure of government in order to retain currency and relevance to the potential stakeholders, especially politicians.

However, it can be and usually is a long drawn out process, especially if a number of layers of decision-making are involved. The cautious approach exhibited by the participants in the case study to tackling and committing to one level of cooperation at a time is testimonial to this. This stepped sequence of cooperative agreements was a noted departure from the generic CPM.

From this point in the research, it is the collective experience, views, positions and decisions that are of interest, ie that of the member organisations, and not necessarily those of the individual actors that comprise the organisations. It would be impossible in a longitudinal study of this nature to track the individuals that came and went in this case study. In any event it is the corporate responses that are of interest to the research question. Hence for the remainder of this review the emphasis is on understanding the corporate position of the member local authorities participating in this cooperative venture.

8.2 FORMATIVE PHASE

In essence, the previous preliminary phase was not prompted by a crises or hard scientific evidence that demonstrated a need for cooperative action. Whilst concentrating on continuing to 'demonstrate the need' for the initiative to potential partners, this phase also served to bring them together and to seek, or at least commence to seek, their commitment to a cooperative partnership as yet loosely defined. In this sense there is overlap between these two phases.

Consistent with the previously mentioned stepped approach to cooperative and collaborative activities, two distinct parts can be recognised. Together they are equivalent to the Problem Setting Phase of the generic CPM. They are distinguished on the basis of:

Part 1 (Formative Phase) - confirming the cooperative structural arrangement in terms of organisation and membership; and

Part 2 (Gestation Phase) - cementing the relationship and need for the approach and establishing the infrastructure for the cooperative effort.

The Formative Phase of the L-A CPM is equivalent to the first part of the Problem Setting Phase of the generic CPM. It is concerned with preparing for cooperative effort and the partnership, through the bringing together of the potential stakeholders (face-to-face) and obtaining their commitment for preliminary exploratory cooperative efforts. It also entails the

identification of the necessary infrastructure to facilitate the collaboration process. Gray (1989) considers the Problem Setting Phase as a whole to be often the most difficult step.

This phase also presented the first opportunities to commence to build mutual trust amongst the partners.

CONTEXT for FORMATIVE PHASE

This box briefly describes external events that had an influence on events and activities within the Logan-Albert catchment during this phase (refer also to Figure 7.2 and Table 7.2).

Half way through this phase, a Labour government replaced the long standing Coalition/National Party government that had dominated Queensland politics for the previous twenty-five years. This change in government brought with it a spate of changes to the planning and management regimes within the state. Regional planning was seriously placed on the agenda for the first time in the form of the SEQ2001 regional planning exercise.

The state bureaucracy was totally reorganised and restructured including the establishment of a number of super departments. Additional restructuring eventually saw the regionalisation of all state government departments and their function throughout the state.

The formal commencement of the cooperative initiatives for the Logan-Albert case study commenced on 8th March 1989 when LCC hosted the inaugural meeting of the Logan River Management Coordinating Committee (LRMCC) as the steering committee became officially known. The inaugural meeting of the Logan River Technical Support Group (LRTSG) was convened on the 14th April 1989.

8.2.1 Stakeholder Analysis

Gray (1989: 64) considers that "the question of who should participate in a collaborative negotiation is a very important one with serious implications for the outcome of the collaboration". In relation to the original intent of the "Adjacent Shires Cooperation Policy" of LCCs *Watercourse Management Strategy*, there was no doubt that local government was the principal partner group. However, the steering committee needed to be reassured that all potential public sector stakeholders had been identified and approached for their possible involvement in the cooperative undertaking. To this end a stakeholder analysis was undertaken. A starting point was to identify those agencies that exercised some managerial control over different geographic sections of the river and its catchment. The range of public sector stakeholders who at that time were exercising some managerial role within these river corridors and catchments has previously been discussed (see Section 3.3.6c and Figure 3.5). These agencies were then invited to subsequent meetings of the LRTSG in an attempt to gain their commitment to a cooperative approach for management.

The early discussions did acknowledge that the general community represented a further group of potential partners who in certain circumstance would be crucial to the success of many implementation issues. In this regard, it was noted that the engagement of those stakeholders who might have some role and responsibility in the implementation phase would be crucial to its successful outcome. However, it was decided to focus initially on public sector management coordination and to defer the possible establishment of a community consultative process until the main initiative was properly established. The local authorities were reluctant to move quickly in a public consultative direction at this early stage, bearing in mind that there was no precedent for such approaches and practices in planning and environmental management circles in Queensland at that time. The steering committee did however agree to a series of public engagement activities, namely in the form of press releases, a public seminar, and attempts to seek public feedback on future directions for the steering committee (see Section 8.2.6).

There was also a widely held belief amongst some politicians (especially in local government) and bureaucrats at that time that the public did not have a legitimate right to be involved in cooperative planning and management exercises, especially involving technical issues, beyond the consultative (Arnstein's "informing") stage see Figure 6.5. Whilst this topic was aired at many of the early meetings of the LRMCC, it was often done so in a veiled manner with inconclusive outcomes, particularly when it came to decisions regarding greater degrees of public involvement in the cooperative planning process.

As a self selection process, each partner had different motives for agreeing to participate. Brunson (1998) argues that it is important for people seeking to achieve cross-boundary stewardship to understand the attitudes of relevance to others towards territory, boundaries, and cooperation. Whilst only individuals can have attitudes, and not groups, certain attitudes are likely to prevail within a group from members of shared experience, beliefs and values. Some attitudes are long held and deep rooted, whilst others are transitory and shallow and susceptible to normative pressures or information that changes beliefs about reality, (eg education or propaganda). It has previously been noted that people's attitudes towards cross-border cooperation are important determinants of the success or failure of cross-boundary stewardship. These attitudes are strongly influenced by a person's value system - an issue previously noted in regard to the rural-urban split between local government motives and positions. Participation in cross-boundary stewardship is more likely to occur if cooperation is considered to be more important than defensive values that would-be participants hold. Other likely attitudinal influences are:

- beliefs about the need for such stewardship;
- past exposure to stewardship ideas;
- beliefs about how significant others will react to stewardship initiatives;

- previous personal experience; and
- the strength of potentially conflicting attitudes towards territorial control.

As identified in the Demonstration of Need Phase, there was an early focus on (increased) recreational use of the river and the need to maintain an acceptable level of water quality. Consequently, early potential non local government stakeholders included representation from state agencies responsible for outdoor recreation, natural resources such as fisheries, water quality, and water resources. The previously noted complex management regime for river systems and catchments in the state only served to compound the confusion as to who the legitimate stakeholders were.

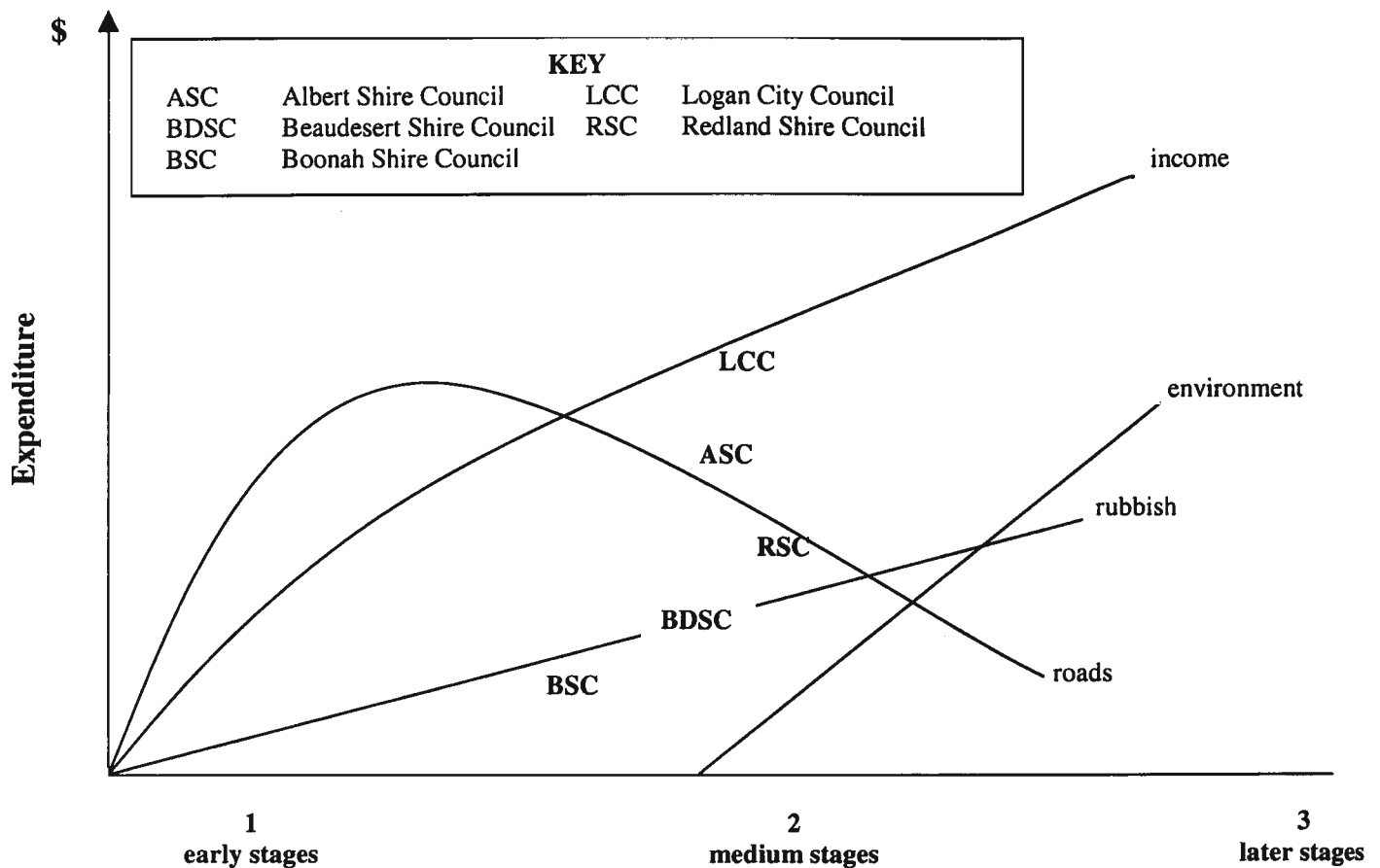
8.2.2 Establish the Collaborative Group

a. Level and degree of involvement

Essentially the settling of membership was a self selection process with each potential partner deciding for themselves the degree of involvement they desired and which level to participate at. Bearing in mind that the overall objective related to the coordination of local government strategic planning within the catchment, it was critical that all catchment local authorities be involved in the central cooperative activity.

The perfect model would have included all five local governments that have been shown to exist across the catchment. However the minutes of LRMCC meeting of 25th August 1989 record that "the meeting was advised that Boonah Shire Council, at this stage, does not wish to become part of the Management Committee but wish to be kept updated in relation to progress by the committee". BSC did not join at the outset arguing that they had no direct river frontage and that their main drainage system, Teviot Brook, was only one of a number of tributaries to the Logan. The council also claimed that they had limited funds and resources to participate in these perceived extracurricular activities. Mention has previously been made of the concerns of the rural based upper catchment shires.

One way to explain the varying degree of interest and commitment to early cooperative action is based on Hall's model of the local government "Life Cycle" (see Figure 8.3).



After Hall, 1990

Figure 8.3: The Local Government “Life Cycle”

Hall's generic model illustrates the relationship between a local authority's income (rates) and its evolving expenditure priorities. It demonstrates that these priorities and associated functions tend to change as an area is developed. In terms of Hall's model, increased development translates into increased income. In the early stages of a local authority's development, most of its income is directed to the provision of traditional basic services such as roads, water supply and sewerage. This would also be the case for councils with a small rate base such as many traditional rural shires. In the medium stages of development for a local authority, the provision of services such as waste disposal and libraries gain in importance and priority. It is only after incomes reach above a certain level and the basic services have largely been satisfied that local authorities have sufficient resources to then focus their attention on issues of environmental quality (Hall, 1990). Low Choy (1992) has used Hall's model to identify a corresponding sequence of local government responses to emergent local environmental issues, including:

Phase 1 Reactive Responses: largely involving repairs to environmental damage and largely employing engineering (hard) solutions.

Phase 2 *Fragmented Responses*: characterised by ad hoc sets of reactive responses to fragmented local environmental issues including initiatives such as: the retitling of committees (eg Planning and Environment Committee); establishing Environmental Advisory committees; engaging specialist staff (or consultants) such as environmental officers/planners, landscape architects, greening officers; initiating special environmental studies into topic of local environmental interest (eg koala habitat studies); adopting discrete environmental policies or strategies (eg Open Space Policy, Conservation Strategy); establishing a green levy.

Phase 3 *Integrated/Strategic Response*: a holistic, proactive and forward looking approach which attempts to present an integrated approach to environmental planning and management.

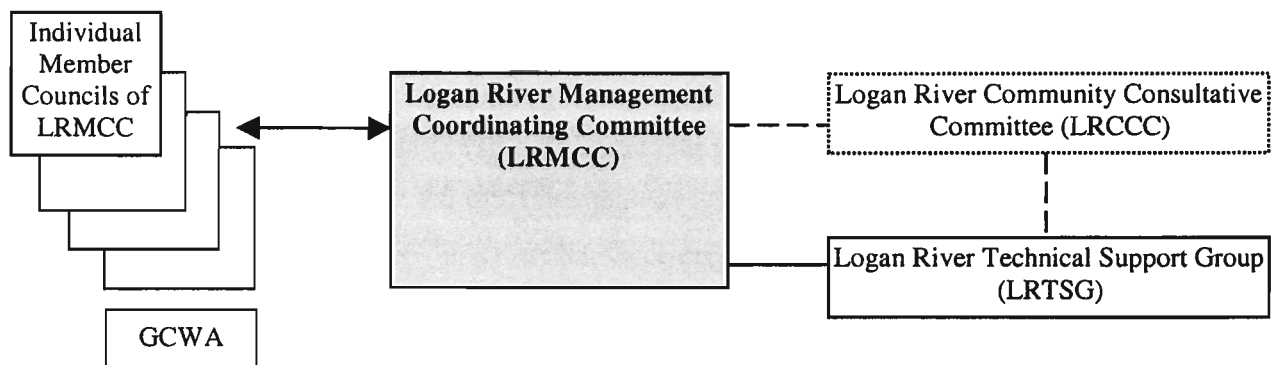
Hall's model can assist to explain the situation characterised by an ad hoc to poor focus on environmental planning and management as previously noted in Section 7.2.3. It can also provide a means to identify and compare domestic local authority commitment to environmental planning and management (Hall, 1990). This accords with Selman's concept of "ecologically modernising" local governments in collective arrangements where each will be at a different stage of evolution (Selman, 1999: 45). During the late 1980s, each of the five catchment local authorities had different relative positions in terms of their stage in development and expenditure priorities as presented by Hall's model depicted in Figure 8.3. Their relative positions in this regard are illustrated by their overlay on Hall's model in Figure 8.3. Logan City at that time was the second largest local authority by population in the state and consequently it had the largest annual income from its rate base of the five councils. However, it was also the youngest (formed in 1978) and was heavily committed to providing basic infrastructure to its rapidly growing urban areas. The larger local authorities of ASC, LCC and RSC had moved into Phase 2 with a multitude of *Fragmented Responses* to local environmental issues. The rural based upper catchment local authorities of BDSC and BSC both had relatively lower rate bases and consequently far less resources to expend on Phase 2 initiatives.

Under these circumstance, initiatives of the Phase 2 and Phase 3 type which took individual councils beyond their local areas and immediate concerns, such as the cooperative planning and management proposal for the Logan River, could only gain the necessary support from these larger councils. Such initiatives would also have to be seen as part of an individual council's evolution towards more integrated and responsible environmental management which in turn would have to be consistent with the desires of that local authority's constituents. As previously noted in the case of LCC, major shifts in policy of this nature tended to be most noticeable, at and after, times of local government election – ie every three years.

b. Focal organisation

In view of the primary attention towards local government statutory planning, it transpired that the focal organisation that emerged from the original interim management committee comprised the four local authorities of ASC, BDSC, LCC and RSC together with the Gold Coast Waterway Authority (GCWA). As a QUANGO the latter was a typical management solution used by the State government administration of that era (see previous discussion on QUANGOs in Section 3.2.2)¹. In the case of the GCWA, it exercised statutory managerial control over waterways from the Queensland-New South Wales border north to and including the Logan River, and then upstream to the limit of the tidal reach of the waterways. In this sense, the GCWA authority overrode the normal state-wide responsibilities of government departments and agencies.

This focal organisation was to function as the central group responsible for policy determination. It was agreed that technical support should be provided to the focal organisation through a separate group comprising technical staff drawn from the partners to the management committee and other management agencies identified in the stakeholder analysis. Provision was also made for the inclusion of a future community consultative committee. This organisational structure is illustrated in Figure 8.4.



(Source: Low Choy, 1999)

Figure 8.4: Outline Organisation for Logan River Management Coordination (at formation)

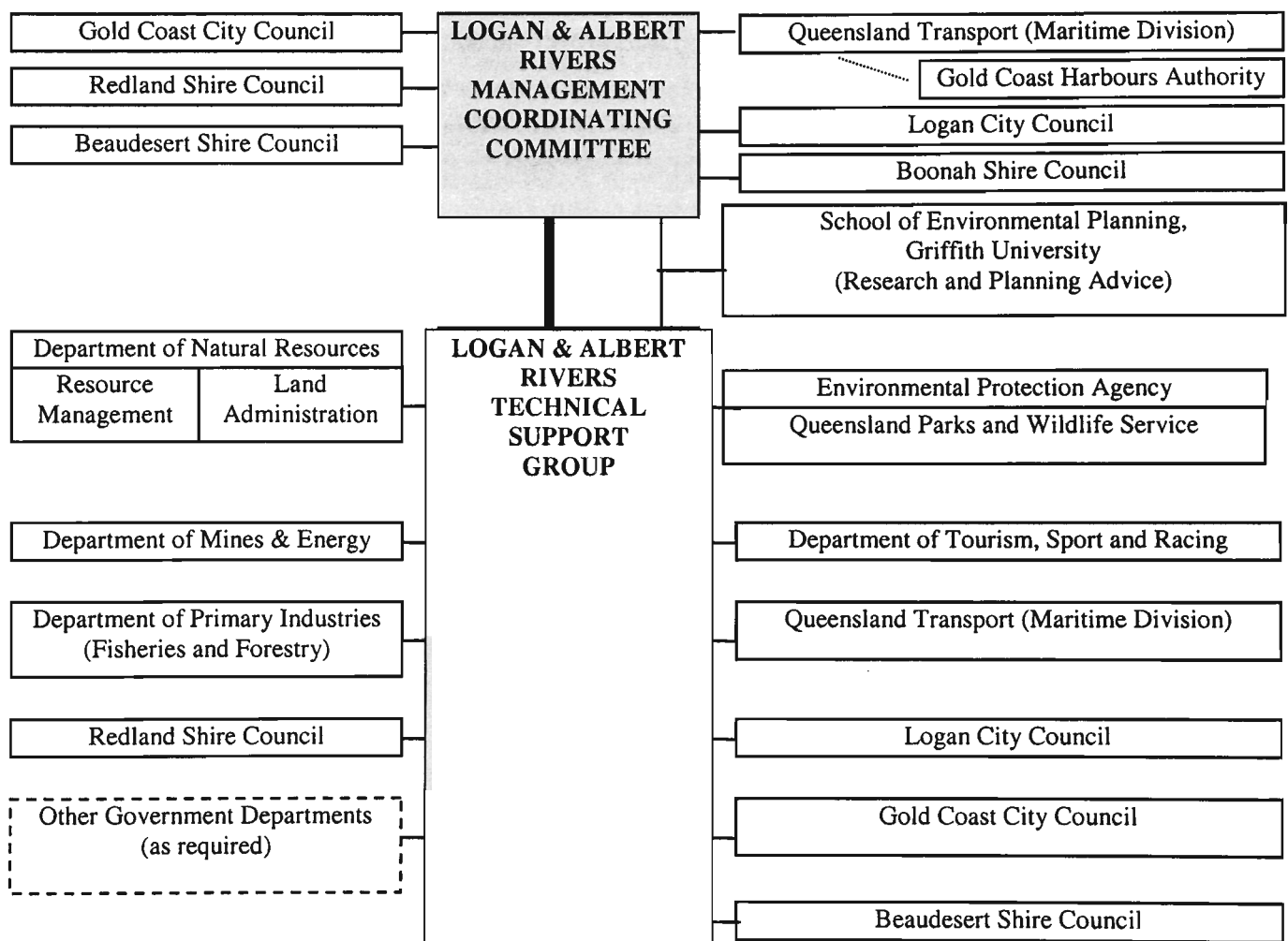
At the time of its formation, the LRTSG comprised technical officers from the member councils of the LRMCC, the GCWA, together with the following state agencies who had agreed to participate:

- Division of Land Utilisation, Department of Primary Industries;
- Division of Dairy and Fisheries, Department of Primary Industries;

¹ The Goss ALP government abolished the GCWA soon after its election in 1990 and the technical staff of the Authority were transferred to the Marine Division of the Department of Transport where they continued to exercise their responsibilities until those functions were rationalised in 1997 and the Department of the Environment regained those responsibilities.

- Queensland Water Resources Commission;
- Department of Lands;
- Division of the Environment, Department of the Environmental Conservation & Tourism;
- Division of Conservation, Parks and Wildlife, Department of the Environmental Conservation & Tourism;
- Department of Harbours and Marine;
- Queensland Recreation Council; and
- Geological Survey, Department of Mines.

The membership of this latter group has changed considerable over the study period at every occasion of a restructuring of the state bureaucracy. The membership of the LARMCC and the LARTSG at the conclusion of the study period is illustrated in Figure 8.5.



(Source: Low Choy, 1999)

Figure 8.5: Detailed Organisation for Logan & Albert Rivers Management Coordination (1999)

c. Membership

As the focal organisation was to function as the central policy group it was to comprise an elected representative and a council officer from each of the local authority partners². However the individual members that were nominated by their respective organisations varied considerably. This variation was a direct response to the perceptions that the individual partner organisations had of the cooperative initiative and the priority that they placed on the intended work of the LRMCC and its possible outcomes.

BDSC essentially saw the purpose of the LRMCC as a resource allocation function with water being the principal focus as opposed to cooperative planning. Consequently, they nominated their water supply and sewerage engineer as the officer representation from their council to the LRMCC. BDSCs senior planner at that time claimed that the LCC *Watercourse Management Strategy* and associated proposals were kept from him. The Mayor considered that he had river management experience from his farming background and therefore placed himself on the committee as BDSCs elected representative. He also did not trust a number of the other elected officials from the other councils. In fact he would later claim that he found their behaviour aggressive and blaming of the rural shires and not very helpful.

The engineer's reflection of this time noted that BDSCs principal concerns then centred on securing a reliable source of water supply especially during a drought that was coincident with the proposals to establish the Logan-Albert initiative. This tended to focus that council's attention to water supply and their decision to appoint their water supply engineer to the membership of the LRMCC along with the Mayor. It is doubtful, given the previously comments of the mayor of that time if BDSC would have joined the LRMCC without their concern to maintain a guaranteed water supply source from the Logan River. It would not be until the wake of the 1991 council election before BDSC, then under a new mayor, replaced their water supply engineer with their strategic planner as the technical officer on the management committee.

All other local authorities tended to nominate an elected member whose 'electorate' was adjacent to or included the Logan River. RSC nominated the Chairman of their Planning and Subdivisions Committee. The GCWA nominated their General Manager and a senior engineer. ASC and LCC were each represented by their city planners, whilst RSC nominated their senior strategic planner. In the case of the urbanising downstream local government areas, the most appropriate staff were appointed to the management committee thus giving it the necessary expertise and status.

² GCWA was represented by its CEO and a senior engineer.

The initial membership of the LRTSG tended to be filled by mid-level technical staff normally with a planning background in the case of the local authority representatives, or planning or engineering related in the case of the state agencies.

In line with the regionalisation initiatives of the state government that came about after the 1991 state election, the membership of the LARTSG in a number of instances shifted from the Initial "head office" representation to regional office membership. However, because state agency regional delineation was not coordinated, every department had a different set of regions and this made the task of coordinating activities and actions within the catchment extremely difficult. In a number of instances, the one state agency had to be represented by two officers because they represented different regions and their regional boundary bisected the Logan catchment. In fact, on one occasion, a LRTSG meeting was the first time that two officers from different regions of the same state agency had met. They and others then took the opportunity presented by the LRTSG meetings to meet informally on other non-catchment matters.

8.2.3 Appoint a Facilitator

A major concern during these initial negotiations centred on the ability of the councils to collectively undertake the necessary work that would be required to link the efforts of the individual members of this new cooperative alliance and to direct the identified research tasks. This became a discussion item at all of the preliminary meetings and again at the inaugural meeting of 8th March 1989. It was acknowledged that the establishment of a separate coordinating group or agency was out of the question, and difficulties were foreseen in physically bringing about the required coordination. As previously described in Section 7.1.2, this inaugural meeting resolved to accept the services of the Landscape Planning Group of the Queensland University of Technology in a research and planning advisory capacity³. In essence this researcher became the facilitator of the LRMCC initiative whose primary function centred on maintaining the progress of ongoing cooperative work and activities.

At that time, and to a large extent still today, these were not roles that planners train for nor were usually employed in. The potential and emergent contemporary role of a planner as a facilitator has previously been canvassed (see Section 5.2 and Section 6.3.5). The experience of the case study serves to reinforce these contentions.

Specific examples of this new and emergent role included:

- deriving an common set of issues and problems for collective attention;

³ This function was later transferred with the Management Committee's concurrence, to the School of Environmental Planning, Griffith University when the former QUT planning staff took up new positions

- developing a methodology for the cooperative partnership to focus their attention on the whole catchment;
- identifying a program of whole catchment activities to promote the catchment approach ;
- proposing whole of catchment policies and strategies; and
- acting as a spokesperson for the group.

As the initiative progressed so too did the task undertaken by the researcher in this new facilitator's role. In particular, this included the provision of a leadership role, especially in the area of technical and professional advice dealing with planning and management aspects.

8.2.4 Obtain a Commitment

As previously noted, the LRMCC adopted a cautious stepped approach to their commitment to increasing degrees of cooperative action. In the first instance, the inaugural meeting committed only to collaborate to explore for opportunities. The second level of commitment came when the LRMCC adopted the paper titled "Towards a Joint Coordinated Management Strategy for the Logan River", dated June 1989. This was done at the June 1989 meeting of the management committee and then progressively refined after feedback from member councils over August and November meetings during 1989. In essence, each member was asked to commit to:

- the organisation, structure and membership of the focal group;
- the general aims of the committee;
- a draft set of study objectives related to an intended management strategy for the catchment;
- the emergent key issues; and
- a preliminary set of ongoing tasks (see Section 8.2.5 below).

From the outset it was obvious that it would require some time for the establishment of mutual trust and closer relationships between members at both the organisational (individual council) level and the personal (individual council representative) level. One major challenge was the lack of opportunities to do so especially given the frequency of LRMCC meetings that were only conducted every two months. This situation worsened as individual committee members changed especially after council elections. The same challenges applied to the LRTSG. There were few precedents and limited opportunities for local government cooperation amongst themselves or with state agencies in the period leading up to the time in question (the late 1980s-early 1990s).

An appreciation of the challenges faced at this time in seeking a cooperative approach to river and catchment management can be gauged from recorded comments of early meetings of the LRTSG and other sources. They include:

1. "we do not have much control over Albert Shire" - Water Resources Commission representative (LRTSG Minutes, 14th Apr 89);
2. "no-one-stop-shop for overall control is available" (Minutes of Special meeting, Environmental Advisory Sub Committee, LCC, 7th Dec 88)
3. "I would say that as an objective in the whole process (*LRMCC initiative*) to perhaps recognise how that can be overcome" - comment by a senior local government planner in response to state agency representative's statement that "we licence the actual works and the Shires issue a permit " (LRTSG Minutes, 14th Apr 89);
4. "R/E SQ might find out what this committee is about and what its standing is. We should educate them to realise WRC is vital to their endeavours" note to WRC file in response to newspaper article headed *Logan River Management 'to be split'* (in Gold Coast Bulletin, 1st December 1989). Interestingly, a WRC representative had been participating at all meetings of the LRTSG since its inception earlier that year;
5. Recommendation: "that a set of simple case studies by (*sic*) put to the Premier outlining the problems of current legislation and frustrations, and the aims of the Committee to create a streamline strategy"(LRTSG Minutes, 30th Mar 90).

Mention has previously been made of the reluctant decision of BDSC to join the cooperative initiative. It later transpired that another major reason why they did so was to "maintain a watching brief" on proposals and outcomes from the LRMCC activities that may have had a detrimental effect on their internal shire activities, especially if they impacted on their town planning scheme.

The desired culture of cooperation simply did not exist at this time in Queensland. This had the effect of lengthening the preliminary phases of the cooperative process and the reluctant acceptance of a cautious, stepped approach that the member councils adopted to increasing cooperative undertakings over time. It also required the development of strategies in attempts to overcome these impasses and consequently a lengthy 'learning from experience' process was embarked upon.

8.2.5 Set Agenda

The June, August and November 1989 meetings of the LRMCC resolved to adopt a proposed initial Agenda of immediate tasks for the group including:

1. development of operational objectives for a management strategy for the Logan River;
2. refine and prioritise the key issues;
3. develop a detailed methodology for the planning study to devise the management strategy;
4. establish the initial data base;
5. compile a base map for the study area; and

6. develop a public participation program for input into the planning process.
(LARMCC Minutes, 29th Nov 89 and Background Brief, dated Jun 89).

The committee members advocated a cautious approach with respect to Task 6. It was recorded that "the committee considered it advisable to contact the local groups with respect to advising what is happening and to invite comment" (LARMCC Minutes, 2nd Jun 89)

This task of agenda setting had to also reflect the interests emerging from the early rounds of the Delphi study (see Section 8.3.1). It was important to ensure that all members felt that their interests were being addressed. Given the previously mentioned divergence between the upper catchment local authority's focus on water supply issues and the lower catchment council's interest in broader planning matters, this presented a challenge.

8.2.6 Conduct Early Cooperative Exercise

Cooperative initiatives of the nature of the LRMCC, where there are only tenuous agreements in place, need early confirmation of cooperative success in order to cement the commitment to ongoing and sustainable cooperative involvement and effort. In order to achieve this and to overcome the reluctance of the member councils to more fully engage the general public of the catchment in a public participation exercise, a strategy was devised to take the LRMCC initiative to the public in a non-threatening manner to the councils. This strategy involved an original proposal centred around a specifically designated week which would be observed simultaneously in all local government areas of the member councils and include a range of diverse activities. Activities of this Logan River Week were to include: a Logan River Festival⁴; field days; a river conference; publicity initiatives such as newspaper inserts and feature articles; and public displays. The aim of the week was to "encourage public discussion on issues related to the river and its future management, and for the public to take an active part in the development of a suitable management strategy for the river" (*The Reporter*, 20 Jun 90).

This initiative emanated from a proposal from the Queensland Recreation Council (QRC) and another from the Facilitator for a public participation program with catchment and river focused community involvement. Of all state government agencies of that time, the QRC were the most accustomed to dealing with the general public and specific stakeholder groups as they constantly dealt with local and regional community sports and recreation groups. Consequently, in their proposals for greater public awareness and community involvement, community needs identification played an important role in the early public participation proposals and activities developed for the LRMCC (Humphries, undated - circa 1989).

⁴ This activity had occurred in previous years, totally unrelated to river management initiatives and was focused on outdoor recreational activities and sponsored largely by the QRC, ASC and LCC.

In the end, due to a lack of resources and a degree of ambivalence on the part of some councils, the ambitious proposals for this inaugural Logan River Week had to be confined to the existing river festival and a major week-long public display in the Logan Hyperdome (selected because of its central location to the major concentration of the catchment's population). In retrospect, the first Logan River Week (17th to 25th November 1990) was considered to have achieved the following outcomes:

- it demonstrated to the LRMCC that cooperation, focused on a common set of goals and objectives, was achievable and that mutual gains were possible. The LRMCC agreed to recommend the continuation of the Logan River Week concept and to broaden its range of activities back to those originally proposed (LRMCC Minutes, 15th Feb 91);
- the success of the exercise served to reinforce the benefits from cooperation and to reconfirm the commitment of the LRMCC members to the cooperative process;
- it served as a platform for state agencies to cooperate amongst themselves as well as with local government, which hitherto had not been a frequent occurrence or opportunity. It commenced to cement the relationship of LRTSG members and led to increased openness and interaction which became evident at subsequent meetings and activities;
- the activity was the first attempt to take the issue to the public and it became the start of attempts to raise public awareness of river management issues and the need for cooperative approaches. This had long term benefits for the initiative as a whole.

The Logan River Week was supported by a number of particularly minor initiatives but nevertheless engaging, early cooperative exercises. One involved reaching consensus on the design for a corporate logo to graphically represent the cooperative initiative (confirmed at LRMCC meeting 27th April 1990). The adopted logo is depicted in Figure 8.6⁵.



Figure 8.6: Logo of the Logan-Albert River Cooperative Management Initiative

⁵ This design acknowledges the five principal local government members, the participating state government agencies as a collective group, and the catchment community, each by a wave symbol.

The second support initiative involved the design of a poster that promoted the concept of all communities living in the same catchment. Under the title "The Logan - Discover Your Logan River", it graphically and symbolically illustrated the five local government areas within the Logan River catchment (confirmed at LRMCC meeting 21st September 1990).

A third initiative involved the collective design and dissemination of a high quality brochure titled "What You Need To Know - To Discover - Your Logan River". It graphically depicted a range of outdoor recreation opportunities associated with community recreational facilities in each local government areas such as river-side parks, reserves, memorials and boat ramps, together with their street directory reference and address (confirmed at LRMCC meeting 22nd November 1991).

As these outcomes would end up in the public forum, these cooperative exercises were taken seriously by the participants for the outset. The independent Facilitator and the QUT Landscape Planning Group fulfilled their role in steering the committee towards a satisfactory conclusion to these early cooperative efforts. It had the effect of assisting the group to reach consensus quickly and defused any conflicts that arose during the committee's deliberations. Interestingly, once the LRMCC did reach a consensus view, they still directed that the logo, poster and brochure be sent to their individual councils for their final ratification. This was to become the regular pattern for gaining approval for the implementation of outcomes from all future cooperative activities.

None of these early exercises could be considered mainstream traditional planning tasks. However, they did serve the subsequent planning endeavours in a number of ways, including:

- raising the catchment community's awareness of the river and its management issues;
- allowing these issues to be more closely defined;
- commencing to identify the fuller range of stakeholders beyond the institutional ones involved in the traditional forms of governance at that time; and
- providing a central theme for deliberation and discussion by members of the Logan-Albert initiative (particularly the elected officials) in a learning environment.

The successful completion of each cooperative initiative in which all partners played a role, regardless how minor it was, had the effect of developing further mutual trust and drawing the members closer together as a collaborative group.

Strategies to complete early cooperative exercises to confirm commitments have been advanced by a number of authors (Gray, 1989; Alexander, 1995; Margerum, 1999c).

8.2.7 Summary

At the conclusion of the Formative Phase, a cooperative venture was under way. The adopted model of cooperative action could best be described as a minimalist approach to cooperative action characterised at that time by a limited, although varied, contributions and commitment on the part of the individual members, and no accountability back to the new cooperative organisation that they had established but only to their original member organisations. It was essentially an ad hoc committee structure with the collaborating partners self selecting their membership. It was to function purely in an advisory capacity to their member local authorities and to the participating state government agencies. One of the councils (LCC) functioned as a de-facto lead agency and the group has appointed an independent Facilitator. Whilst expectations amongst the member organisation were varied, they were low overall in term of expect outcomes, particularly in the short term.

The process of identifying the legitimate members for the initiative was basically a self-selecting one. The cooperative organisation was not bound by any formal agreement, statue or decree and individual members were free to disengage at any time of their choosing.

In terms of the option adopted to implement cooperative actions, it was equivalent to Margerum's (1999c) Common Information Set (CIS). This meant that the stakeholders were limited to the sharing of information, providing different perspectives and analyses, and an attempt to develop a better understanding of their common theme and area. The challenges facing this arrangement included the relevance of information gathered through this process to future requirements, and whether the information could infiltrate into the member organisations in order for them to adjust their decision making. More importantly, this approach and level of cooperative agreement would not, and could not, define an implementation strategy to address the key issues of concern.

8.3 GESTATION PHASE

The Gestation Phase is equivalent to the second part of the Problem Setting Phase of the generic CPM. As previously noted, Gray (1989) considers the Problem Setting Phase as a whole to be often the most difficult step. The Gestation Phase is concerned with cementing the relationship and achieving further and more detailed levels of cooperative efforts, together with the further development of the infrastructure to facilitate the collaboration.

CONTEXT for GESTATION PHASE

This box briefly describes external events that had an influence on events and activities within the Logan-Albert catchment during this phase (refer also to Figure 7.2 and Table 7.2).

This period can be likened to an "enlightened" phase for planning in Queensland. Hallmarks of this era were the Fraser Island Inquiry which looked at the process of planning and decision-making in Queensland, questioned the relevance of the EIA process and explored the potential for regional planning to play a more prominent role in environmental management.

Major advances were made with the SEQ2001 regional planning exercise that would become the 'flagship' of the State government's approach to regional planning in Queensland. This initiative also served to allay local government's fears of regional planning and to empower them to be full partners in these (partly) bottom up planning approaches.

New resource management approaches were also initiated at this time, principally the Decade of Land Care and the State government's ICM program.

There was a new wave of optimism in planning circles and an emergent spirit of cooperation amongst state agencies and local government (albeit cautious). Regionalisation of local government began to formalise with the establishment of Regional Organisations of Councils. These ROCs started to consider strategic planning and environmental management issues at the regional level. Further restructuring of the state bureaucracy followed.

8.3.1 Confirm Common Problems and Issues

Margerum and Born (2000) acknowledge that the coordinative process must start with the development of a common base of understanding that is derived from using the same information, sharing analyses and comparing goals and objectives. This exposes differences or conflicts in the data, the analysis and the goals and objectives. Thus conflict resolution is an essential component of coordination.

Brunson (1998: 72) argues that "in issues of public policy it is often as important to know what people want to occur as it is to know what actually is occurring". He supports this position by noting that public agencies represent a large constituency whose needs, values, and desires are supposed to help guide a democratic society, and that people's interactions with others are guided in part by their expectations about how others will behave.

A number of other authors have also noted the crucial importance of establishing an early agreed set of issues and/or problems that the collective efforts of the cooperating group should be focussed on (Minnery, 1985; Gray, 1989; USDA Forest Service, 1995; Porter and Salvesen, 1995; Margerum and Born, 1995; Selin and Chavez, 1995; Healey, 1997; Lessard, quoting IEMTF, 1998; Margerum, 1999a,c; Hooper et al, 1999).

In the case of the Logan-Albert initiative this exercise was commenced from the outset with all potential participants who attended the initial meeting being requested to submit in writing "a

list of concerns and problems" (LRMCC Minutes, 8th Mar 89). Their responses became the source for the preliminary list of concerns that in time constituted the first round of a Delphi study of key issues of concern to management agencies. The preliminary list comprised some twenty six issues and highlighted the members collective concern for the following principal issues: sand and gravel extraction; recreation use of the river; waterfront development and waterfront industry; and public open space, visual quality and ecological conservation. Water quality and water supply were also prominent.

These issues coincided with the broad range of the challenges that local government planners were confronted with at that time in this region. As part of the rapidly growing outer rural-urban fringe of Brisbane City, this section of the Logan River was under considerable pressure for development. In the absence of regional planning, the task of providing the professional policy and other planning advice on these regional scale issues being managed by local government, fell to their planners. These local government planners were grappling for the ways and means to safeguard the environmental values of that time, minimise environmental degradation, especially along the waterways, whilst ensuring that future populations of these developing areas had access to recreation opportunities provided by these same waterways. The pragmatists amongst these planners and resource managers also sought to ensure that sources of natural resources required for development (sand and gravel and water) remained accessible for future exploitation.

The second round of the Delphi study was undertaken during 1990 and completed by May 1991. This exercise produced an extended list of some 37 key issues prioritised into four bands (see Appendix 8.1a). The sheer size of the list provides some indication into the breadth of interest (and statutory responsibility) of the partners in this cooperative venture. Many of these key issues also reflected the emergent quality of life issues that have been canvassed in preceding chapters. However, getting all stakeholders to complete the survey documents for the Delphi study was a long drawn out process especially given the nature of the exercise and the common reluctance of bureaucrats to commit beyond their perceived areas of agency responsibility. Simultaneous structural changes to the bureaucracy at this time also did not assist matters in this regard. Never-the-less, the importance of this exercise cannot be overstressed as these results would shape the future direction in cooperative effort in a significant manner. These aspects are discussed in further detail in subsequent sections. Section 8.5.1 also provides an elaboration on the Delphi study process and its results.

The report into the key issues of concern to the catchment management agencies used the results to recommend to the LRMCC a series of enhanced cooperative planning endeavours. For example, it concluded that the highlight of the 'sand and gravel' issue as the major concern to the

management agencies "clearly re-inforces the regional nature of this issue (*and recommended that*) a coordinated management strategy is required and this should be applicable to the whole catchment" (Low Choy, 1991: 4). The other highly rated issues of collective concern, wetlands conservation, visual quality, tourist development, recreational use of the river/riverfront land, and the maintenance of aquatic ecosystems, also led to similar concluding recommendations. These included a river corridor study to focus on community use of riverfront land, particularly for recreational and tourist use, and a conservation strategy to address the ecological and conservation concerns.

However this exercise also reinforced the strong rural-urban divide that existed between the rural and the urban interests at that time. The urban issues dominated and were deemed to be of greater importance relative to the rural issues. By contrast, the rural issues associated with upper catchment commercial activities were shown to be of little concern to those agencies focused down river. This led to the conclusion that "the range and degree of concerns suggest a need to promote the regional issues and for a whole catchment approach to management of these issues be adopted" (Low Choy, 1991: 5). These recommendations were later picked up by support studies undertaken by the Landscape Planning group of QUT (see Section 8.4.3b).

Early meetings of both the LRMCC and the LRTSG were dominated by much unsupported discussion on the condition of the catchment based largely on anecdotal information. Due to the paucity of up-to-date and reliable background studies and data on catchment characteristics, it was decided that in order for the cooperative effort to progress, it needed a commonly agreed basis of understanding about the condition of the catchment, problems, and the key issues of concern. As an interim measure, an aerial reconnaissance was conducted to obtain a set of aerial photographs of the catchment and its principal waterways. Subsequently, a 35mm slide presentation of the aerial photographs obtained from the reconnaissance of the Logan River corridor and its catchment was presented to the LRMCC meeting of 21st September 1990 and to the LRTSG on 2nd November 1990. Much of the early effort also went into producing special catchment maps to illustrate the spatial dimension of the key issues and the area of interest. These techniques produced products that served as a common basis for factual discussion and deliberation and assisted greatly in achieving common recognition of the key issues and acceptance of the problems and thus early agreement was gained for ongoing cooperative effort (at least to the next step of cooperation). In essence, obtaining these common sets of visual data was equivalent to and as important in a cooperative planning exercise as it was to derive a common agreed language.

8.3.2 Assess Capacity of Stakeholders

Not long after the initial meetings of the LRTSG, it soon became obvious that there was a paucity of information and reliable data for planning and management purposes generally but also within local and state government circles specifically. It was even worse for specific study areas, such as the catchment in question. This was exacerbated by limited resources and staff within local government and state agencies to rectify these deficiencies in the short term.

This situation was most acute within local government circles at this time. The planning staffs of most local authorities were small and only the larger councils had planners specifically employed and dedicated to strategic planning. Most local authority planners of that time were fully engaged in development control activities associated with the command and control systems that dominated statutory local government planning in Queensland. Consequently, in-kind resources of a planning related nature from local government sources were scarce.

Requests were made through the LRTSG for specially focussed studies on the Logan River catchment. However it would take a number of years to overcome these shortcomings and some areas were never addressed to the point where adequate decisions could be soundly based. Noted deficiencies included data on sand and gravel resources; areas of conservation significance; water quality; and outdoor recreation use of the waterways

Interestingly, these areas of data deficiencies coincided with the previously described priority issues of concern to the managers working in the catchment. Consequently, this exercise served to demonstrate that some early dividend could be achieved from a cooperative approach. Not only did the process identify and achieve common agreement on a set of key issues and concerns, but it also reached common agreement on the need and the priorities for gaining improved data, that could be use by all the partners for their respective planning, management and decision-making activities.

Additionally, the LRTSG by virtue of its membership was able to easily define the relevant state agency that was responsible for the area into which these data deficiency themes fell. Thus the LRTSG membership also provided the direct conduit into the relevant state agency that had the resources as well as the responsibility to address the identified areas of data need. It remained to secure an assigned high priority to these requests for this necessary work within the respective State agency.

Whilst strategies were developed to attempt to overcome these areas of data deficiencies, there still remained the challenge of how this information could be synthesised and composite policies and programs could be developed through this cooperative initiative. Given the

previously noted scarcity of local government resources, the only capacity to advance these cooperative issues without a properly constituted budget that would utilise a consultant option, was to rely on their completion as student projects. Consequently, a number of post-graduate landscape planning studies were commissioned by the LRMCC using the Landscape Planning Group QUT in their research and planning role. This work is discussed below in Section 8.4.4b.

8.3.3 Identify and Secure Resources

The cooperative venture got underway with an initial budget of \$2 000 for FY1989/90. This was determined on the basis of a subscription of \$400 from each of the five participating members of the LRMCC (LRMCC Minutes, 2nd Jun 98). These funds were to support the Facilitator in his coordination activities especially in regard to the Logan River Week proposal. Clearly, the LRMCC members at this time had limited expectations of likely outcomes, and this was consistent with their perception of the degree of cooperative activity that they believed that they had signed up to. They also had a strong belief that the achievement of cooperative efforts could be achieved through in-kind measures, voluntary efforts of coordination, and from merely drawing together of whatever information already existed in various local and state government and private (university) sources. This attitude is reflected in discussions at early LRMCC meetings with typical comments being "the committee should combine all strategic plans from the various local authorities to produce an overall picture of what is proposed along the environs of the river" (LRMCC Minutes, 8th Mar 89);

This local authority position regarding funding priorities for river management can be explained in part by the relative developmental position of the member local authorities in relation to Hall's local government life cycles (see Figure 8.3). The lack of funds for undertaking the necessary cooperative activities of the LRMCC did not improve. Once the management committee had agreed to the program of annual activities and its associated budget, the original system relied on each elected representative of the LRMCC returning to their respective council to argue the case for funding for the Logan-Albert initiative. This occurred along with all other demands, negotiations and dealings that inevitably occurred during this hectic local authority pre budget period each year. Hence it was seen as an individual demand by those particular councillors and not as a commitment of the council as a whole.

Two former elected representatives on the LARMCC from two different councils would later comment that they were continually frustrated back in their own councils as they constantly fought with their fellow councillors to make good their local authority's share of the LARMCC budget. It transpired that in these circumstances these councils did not see a corporate responsibility to the Logan-Albert initiative but saw it as a personal initiative of their respective representative. Hence the essential operating budget hinged on the personal support that each

elected representative enjoyed, or did not enjoy, in their respective council. In view of the unevenness and unpredictability of this approach, it must be concluded that this was a flawed process for securing an annual operating budget from a number of distinct and separate sources.

Later in the process during the Consolidation Phase, as agreements were being reached on a set sequence of studies, research and planning and community activities, a process was devised in which each local authority was levied for their contribution along an agreed and set formula (LRMCC Minutes, 21st April 95). The formula that was unanimously agreed to was based on the recognition of the population size of each local authority and their potential to generate revenue from their respective rate base. This accounted for the original concerns expressed at the outset of the initiative by the Mayor of BDSC (see Section 8.1.3). The agreed formula was:

- | | |
|---|--------------|
| 1. larger local authorities (GCCC, LCC and RSC) | 4 units each |
| 2. medium local authority (BDSC) | 2 units |
| 3. small local authority (BSC) | 1 unit |

This approach proved to be an extremely successful solution to what had been a persistent administrative problem that had stood in the way of the professional and technical aspects of the cooperative initiative for many years. The success of this approach can be gauged by the significant increase in funding from local government sources over the duration of the study period⁶ see Figure 8.7. The 1996/97 and the 1997/98 budget allocations were a composite figure essentially to complete a whole of catchment strategy framework over two years, with the bulk of the allocation made in the FY96/97.

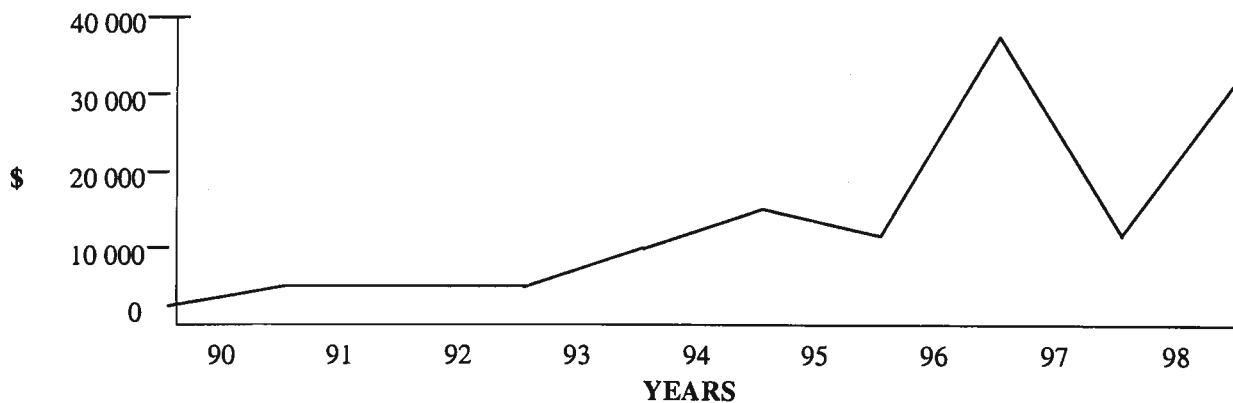


Figure 8.7: Annual Budgets for Logan-Albert initiative (1989/90 to 1998/99)

As part of the initial task to ascertain available resources for the cooperative initiative, the members of the LRTSG were requested to identify relevant and available data and to provide a

⁶ These figures do not include the various in-kind contributions made by individual members of the LARMCC during this period.

list of their activities in the catchment (LRTSG Minutes, 6th Oct 89). The previously mentioned application to various state agencies for directed work to support the LRMCC initiative produced the following examples of principal inputs into the cooperative planning process:

- | | | |
|----|---|---------------------------|
| 1. | "Public Lands Study - Logan River Catchment" (circa 1990) | Lands Department |
| 2. | Base Map of catchment showing public lands (circa 1990) | Lands Department |
| 3. | "Statement of Conservation Values for the Logan River Catchment Study Area" (13 th Sep 90) | Q.NPWS (Southern Region) |
| 4. | Fisheries management data for Logan River and Southern Moreton Bay (13 th Sep 90) | Fisheries Branch
Q.DPI |
| 5. | "Extractive Resources of Logan River and Adjacent Areas" (circa Feb 90) | Mines Department |

Despite the paucity of available background data and limited resources, this response for assistance is indicative of the level of cooperation achieved from the early stages of this cooperative effort. This in part can be attributed to the collegiate team spirit developed amongst the members of the LRTSG that could only occur if individual officer membership remained stable and after a routine of frequent and regular meetings, workshops and other cooperative activities had been established. Unfortunately the State bureaucracy embarked on a number of significant structural reforms and reorganisations together with intra departmental transfers. This had the effect of frequent changes to the representation on the LRTSG that in turn led to a decline in cohesion and cooperative effort. As a result, a lot of effort had to be continually expended on rebuilding these essential cooperative team attributes on many occasions.

8.3.4 Confirm the Partnership

This stage essentially entailed the reassessment of the previous stakeholder analysis as well as a review of the proposals for a greater degree of community involvement in the cooperative process. It was an essential stage in the process due to the time that had elapsed since the conduct of the early Demonstration of Need Phase and the early formative stages that had originally addressed stakeholder identification and analysis. As the context and the local situation changes over time, there is a continual need to reassess the partnership arrangements, essentially to ensure that the engagements are still relevant and that any new and emergent stakeholders are identified and engaged.

It also represents the first major example of the cyclic nature of the cooperative planning process that was relevant to this case study. It was made possible through the following factors:

- participating members had a lower level of suspicion with the process and enjoyed an improved cooperative relationship. This was made possible as a sufficient level of trust had

now been established and stock of social capital had also been built up within the cooperative group;

- attempts at conflict management had been exercised and had not failed (see Section 8.4.3);
- there had been sufficient time for the formative processes to evolve under the circumstances that related to this case study and to those that prevailed in the wider community external to the catchment; and
- there was a distinct gestation period where previous cooperative gains could continue to evolve and mature and where there was time to address a second round of preliminary issues (enhanced forms of community participation being the classic example).

The original proposals for a higher degree of community involvement date back to the genesis of the initial management committee that was established to examine the feasibility of the cooperative partnership. As previously noted these early proposals had come from the original QRC submission and the Facilitator see Section 8.2.6. The QRC submission included an 'optional' component in the form of establishing some form of "District Users Group Board" in an attempt to rationalise the existing recreational community groups with some interest in the river. Interestingly it was envisaged that this Board would not "have any long term role, but would disband at the completion of the project (Humphries, undated - circa 1989: iii).

However the Facilitator had managed to secure the LRMCCs approval for a proposed way ahead which included the exploration of options for greater degrees of public involvement in the cooperative planning process. This commitment was expressed in the Agenda that the LRMCC had agreed to see item 6 of that Agenda in Section 8.2.5 (original source LARMCC Minutes, 29th Nov 89 and Background Brief dated Jun 89). The commitment was also embedded into the aims of the LRMCC - see Aims iii and v listed in Section 8.4.1b. Clearly the original LRMCC did not wish to establish a community consultative committee (CCC) whose membership was self-selecting. Instead they wanted a targeted approach to consultation, resolving at an early meeting that "groups that should be targeted including businesses, conservation groups, ratepayers associations, etc" (LRMCC Minutes, 25th Aug 89). The extent of this public involvement was to be limited to informing and commenting roles when they resolved "that in relation to the public participation exercise each local authority would display posters regarding the strategy and to invite submissions" (LRMCC Minutes, 24th Nov 89). This minimalist position can partly be explained by the lack of a suitable precedence in local government statutory planning circles at that time. Here, the planning provisions of the *Local Government Act 1936* as amended merely required a local authority to place their draft town planning schemes on exhibition for limited periods, usually 30 days, and then to invite the public to lodge objections, which may or may not be taken into account in the final town plan. There were no other formal requirements on local government at that time to engage the community in

planning undertakings nor were there any examples of public participation in local government affairs, planning or otherwise, that gave local authorities confidence in such approaches.

The first formal call for the public participation to be in the form of a CCC came with a resolution of the May 1991 meeting of the LRMCC. It was minuted that "local authorities are to identify two persons in each local authority to serve on this committee. The representatives are not to include elected representatives it was also considered that representatives need to be catchment wide and to possess community skills" (LRMCC Minutes, 20th May 1991). Clearly the elected representatives of the LRMCC wanted absolute control over the CCC selection process and did not wish to provide a platform for other political (or potential) members. This latter point is important to the conduct of cooperative initiatives and is discussed in further detail in subsequent sections (see especially Section 8.4.3b).

Very little progress was made on the issue of local government nominations for the CCC although by March 1993 the agreed nominations sought had increased to three per local authority area. In fact this topic almost became a standing agenda item at LRMCC meetings (see LRMCC Minutes for 2nd Aug 91; 20th Sep 91; 22nd Nov 91; and 20th Mar 92). This lack of enthusiasm that was displayed for this initiative was clearly consistent with the general local government experience of that time. However, changes were on the horizon with the most significant being the State government's Landcare and ICM initiatives and their approach to public involvement and particularly community empowerment (see Section 3.3.4c).

In fairness, the process of finalising a CCC membership was thrown into some disarray by the State government's newly released ICM policy (Queensland State Government, 1991). As discussed in Section 3.3.4c, the uptake of the ICM philosophy and initiative was slow and uneven due to the different points-of-view, challenges and degrees of confusion that arose, especially with its implementation. Two major issues dominated the LRMCC deliberations at that time, both previously discussed in Section 3.3.4c. They included the organisation of the ICMs Catchment Coordinating Committee (CCC) and the role of local government on these committees, and the functions of the ICMs Catchment Coordinating Committee (CCC) and their relationship to statutory local authority planning.

LRMCC began to consider the State government's ICM policy and program from Mar 1992. At the October 1992 meeting it was resolved to approach the State government for recognition of the LRMCC as a CCC under their ICM policy. The motive in seeking this recognition was to gain funding for the Logan-Albert initiative from the State government's ICM program.

As the state agency responsible for the ICM policy during the early 1990s, the Department of Primary Industries (DPI) determined that the Logan-Albert initiative did not meet the requirement for recognition as an ICM project on the basis of the composition of the management committee. Their view of the initiative's committees including the proposed LRCCC (outlined in Figure 8.4) concerned "the current membership not adequately complying with current ICM guidelines" (DPI correspondence, 6 Jul 93). They considered that the Logan-Albert group was far too local government dominated and they suggested an amalgamation of the LRMCC and the LRCCC. However this was unacceptable to the members of the LRMCC because of their strongly held views that the real purpose of the Logan-Albert initiative was the coordination of local authority statutory town plans (namely the strategic plans) through a cooperative effort. They also held the belief that as the elected representatives for their respective areas that they (the council) should retain 'control' over the process especially as they had the legal responsibility for town planning matters and not an ad hoc committee that had no legal standing nor responsibilities.

Once it was absolutely clear that the State's ICM program would not be a possible source for funding, the long awaited and promised LRCCC officially commenced in November 1993. A number of earlier unofficial meetings of this group had in fact occurred commencing from the First Community River Search workshop in June 1993.

This ICM episode highlights the classic contemporary examples of the development of a resource management and parallel environmental planning system outside of traditional planning and the existing statutory planning systems (see Section 3.3.5). The ICM initiative can be seen as an attempt to redress past deficiencies with respect to the inadequate response from traditional planning to the resource and environmental challenges of the day. However, they now represent *de facto* planning approaches with a major deficiency being their absence of statutory backing and formal structural arrangements. However, the challenge for local government of how to integrate the emergent paradigms for environmental and landscape planning and management into their statutory planning procedures and systems remains.

In terms of the definitions and the distinctions that have been adopted in this study (see section 4.1), the ICM program would be classed as a coordinated arrangement as opposed to a cooperative approach (eg it even involves the appointment of catchment coordinators). There is a danger that these catchment coordinators can become representatives or 'outriders' to the central sponsoring State agency. Bowman & Hampton, (1983: 4) remind us that "even if decentralised field agencies have local advisory boards, the lines of accountability and responsibility are clearly towards the centre (and it is most unlikely that any but the 'safe' locals will be appointed to such boards)". They argue that a locally elected council can make a far

more positive contribution than a decentralised administration, to the policy process in consultation with central government departments.

8.3.5 Establish Protocols, Modus Operandi and Ground Rules

a. Protocols and rules

It was agreed that the whole Logan-Albert collective initiative should operate under an overarching set of management principles for the catchment. To this end a set of whole catchment management (WCM) principles was developed by the Facilitator in conjunction with the members of the LRMCC during 1993 (see Appendix 8.2). After separate reviews by the individual member councils, they were adopted at the end of 1993 and revised in 1997 (LRMCC Minutes, 28 Nov 97).

Aims and objectives for the guidance of the primary institutional elements of the Logan-Albert initiative were developed. The specific aims for the LRMCC and the LRTSG are discussed in detail in Section 8.4.1b⁷. Those for the LRCCC are set out in Section 8.4.3b.

b. Modus operandi

The original advisory nature of the management committee's status meant that all decisions of the LRMCC had to be referred back to the member councils for their deliberation and conformation. This would occur in between the two monthly meetings of the committee. It would have the effect of tying up the entire cooperative process in a bureaucratic arrangement that ended up slowing down the whole process to an unacceptable pace. One councillor and long term representative on the LARMCC would later comment that she thought that the process moved too slowly. She blamed this on the cooperative initiative itself and not on the lack of authority that each council gave to its representatives or the degree of autonomy that the management committee was given. There were many occasions during these early periods when individual council representatives took little or no responsibility for their decisions and in fact often hid behind the corporate front of their councils when it suited them.

Further insight into the perceived roles for the Logan-Albert initiative that some elected members held can be gauged from the following incident. After a discussion on the possibilities of future large scale developments at the mouth of the Logan River, the August 1991 meeting of the LRMCC resolved that "this committee was an appropriate point of advice, assistance and consultation for members when preparing terms of reference for or reviewing Environmental

⁷ The final and revised Aims are discussed in this later section in order to avoid duplication and to acknowledge the enhancement of the full scale initiative inclusive of the Albert River, BSC and the new LARCCC.

Impact Statements" (LRMCC Minutes 2nd Aug 91). This decision had the effect of raising the profile of the committee and extending its role into the development control arena. Taken to its fullest extent, it could have resulted in a serious conflict for the committee which essentially had a strategic outlook and focussed on broad policy matters of catchment significance as opposed to specific development control matters which are properly the domain of individual councils. In the end, this recommendation was never acted upon.

During mid 1992, the LRMCC resolved to request formal recognition as a committee under the Southern Regional Organisation of Councils (SROC)⁸, (LRMCC Minutes, 31st Jul 92). In due course, SROC resolved that "the Logan River Catchment Management Coordination Committee (*sic*) be established as a sub-committee of SROC with Coordination Committee Minutes to be forwarded to SROC for noting and a report to coordination Committee activities to be provided to SROC at a frequency to be determined by need and SROC workload" (SROC Minutes, Meeting No 9, 2nd Nov 92). Thus formal recognition for the LRMCC came in the form of an established sub-committee of a ROC which were beginning to gain recognition by higher levels of government and the community as legitimate players in state and regional planning circles in the early 1990s. This arrangement is illustrated in Figure 8.8.

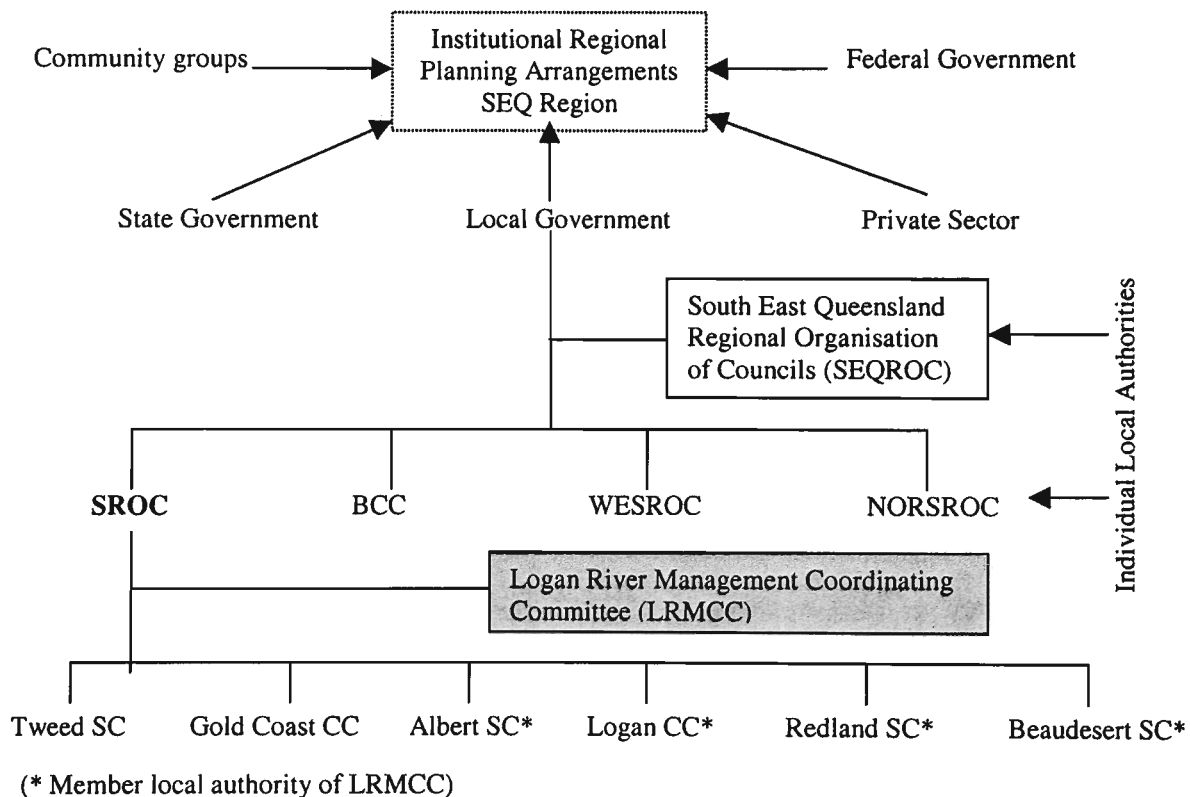


Figure 8.8: Relationship of LRMCC to Local Government Institutional Arrangements in SEQ - 1992

⁸ Now know as SouthROC.

Margerum and Born, 1995), acknowledge that ad hoc coordination may be possible where there are few conflicts, few participants and a high degree of familiarity amongst the players. However they also point out that there are drawback to these ad hoc approaches, notably transaction cost over time where there is a need to reformulate coordination each time. Changeover in personnel can also set the process back especially if ad hoc processes are founded on personal relationships. Margerum and Born (2000: 7) consider ad hoc coordination to be "ephemeral and cumbersome in complex settings". Whilst the relatively conflict-free Logan River situation may have initially suited an ad hoc approach to address the priority key issues on an individual basis, there was no consideration on the part of the LRMCC members that the cooperative process would not be continuous, albeit along a cautious and minimalist approach. In fact, the original elected representative from ASC had definite views on this matter, commenting "the committee would be permanent and would involve different bodies liaising to manage the river (where) one of our tasks will be to assess any application made by each council in regards to the river and make recommendations" (A&LN, 9th Jun 89).

The specific arrangements that were adopted for the formal conduct of the cooperative organisation's business can be summarised thus:

- meeting frequency was to be once every two months or more frequently if required;
- meeting venues would alternate between the council chambers of the member local authorities throughout the catchment;
- the system relied on a revolving chair with the host council providing the chairperson and the secretariat to support the meeting in question;
- individual meeting agendas were developed by the Facilitator normally in consultation with the planning staffs of the member local authorities.

8.3.6 Summary

The overall position at the conclusion of the Gestation Phase was only a marginal improvement to that at the end of the Formative Phase some three years earlier. McDonald and Shrubsole (1996) in a study of ICM CCCs in Queensland have noted that they can be distinguished in terms of their progression along a spectrum from public awareness and involvement \Rightarrow issues generation \Rightarrow catchment planning \Rightarrow technical studies \Rightarrow implementation. In terms of this spectrum, they assess that it requires about 5 years for a CCC to reach maturity, noting also that it takes a considerable amount of time just to establish the CCC, (involving creation of coherence amongst members, learning the challenges and opportunities, and developing the platform for planning and implementation).

This has been confirmed in the Logan-Albert case study, particularly in terms of the initial 'Demonstration of Need' Phase and the Formative and Gestation Phases. There is no doubt that

the combined Formative and Gestation Phases are extremely important preliminary phases upon which the eventual success of the entire cooperative venture depends. They require the expenditure of much time, effort and energy and patience especially if they are being undertaken in a precedent-free context and environmental location.

What is also interesting to note and reflect on at this stage is the approach that the LRMCC adopted for their cooperative initiative. Essentially it was a *problem-solving* approach as opposed to a *vision-based* approach. The Greater Toronto Area (GTA) Task Force noted that "the *problem-solving* approach focuses on current inadequacies of the system in order to develop recommendation for change. The *vision-based* approach defines a desired future and then determines the changes needed to close the gap between where we are and where we want to be" (GTA Task Force, 1996: 18).

Visionary approaches in planning were limited at this time, bearing in mind that there were no formal corporate planning requirements and strategic planning had only been formally introduced in 1980 into local government planning and most local authorities had no processes in place or experience with community visioning exercises.

The participating members tended to see the committee as an opportunity to solve problems, in many cases local ones of immediate concern to themselves or their own council. In this regard they failed to maintain a catchment-wide and long-term strategic view. It would be many years of trial and experience and exposure to other experiences before they could accept a visioning approach that took them beyond their immediate three year planning horizon that coincided with their re-election period in local government.

On the positive side, improvements could be noticed in the level of commitment, resources applied and importantly in the development of mutual trust amongst the members. This group had become familiar with each other and was now settling in to a proper professional working relationship at both the political and technical levels. Essentially all activities and initiatives were now planning focused or related. Time was right to move to the next level of cooperative activity

8.4 CONSOLIDATION PHASE

This phase of the case study is equivalent to the Direction Setting Phase of the generic CPM. The broad purpose of this phase was to respond to environmental management challenges by bringing together parties/stakeholders for a cooperative venture in circumstances where there is mutual agreement on a cooperative way forward. It serves to further develop and consolidate

the cooperative arrangement and involves establishing agreement on the problem/s at this stage that requires tackling in a cooperative manner. It can also include the exchange of information, conflict resolution, and consolidating a joint future direction in terms of agreement on common goals, reaching consensus, and the identification of planning actions.

In essence, participants should begin to identify and appreciate a sense of common purpose (Selin and Chavez, 1995).

CONTEXT for CONSOLIDATION PHASE

This box briefly describes external events that had an influence on events and activities within the Logan-Albert catchment during this phase (refer also to Figure 7.2 and Table 7.2).

This period spans a change in government at the State level with the resultant change in bureaucratic organisations and philosophical directions for many initiatives of the former Labour government, especially in the statutory planning area. The period was also noted for the restructuring of local government that saw the amalgamation of ASC and GCCC.

The period was also marked by a spate of planning activity as many councils in the region attempting to upgrade or produce new town planning schemes in the wake of local government amalgamations and in response to SEQ 2001 regional planning outcomes. There was also indications of a growing strength in State government direction in environmental management matters.

From the 1994 local government election the titles of the elected representative changed throughout Queensland with Shire Chairmen now retitled to Mayors and Alderman to Councillors.

8.4.1 Confirm Cooperative Agreement & Agree Terms of Reference

a. Reconfirming partnerships and agreements

There is no clear boundary between the Gestation and Consolidation Phases. Many of the activities and actions overlap and recycle between the phases. They include the settling out of the main 'players' - ie confirming the partnership, and sorting out the rules that they will have to abide by.

During the early parts of this phase BSC had formally joined the Logan-Albert initiative, becoming a full member in November 1994 (LRMCC Minutes, 25th Nov 94). This completed the institutional framework with all local authorities in the Logan catchment now full members of the management committee. In recognition of this achievement, the next meeting of the LRMCC and the first for 1995 was hosted by BSC. In time, this was to prove a major turning point for the Logan-Albert initiative especially in terms of the individual elected members that now represented their respective councils on the LRMCC.

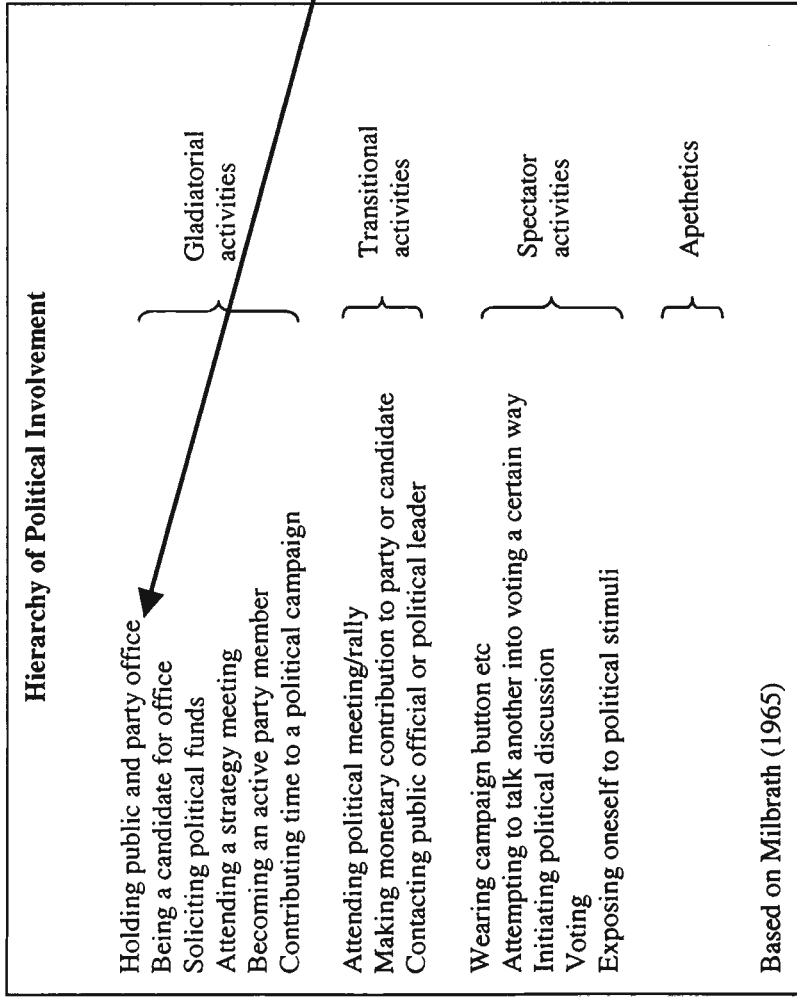
As previously mentioned, the March 1994 local government election resulted in a number of changes to the composition of the member councils. The most significant in terms of the Logan-Albert initiative was the successful election of two former members of the LRCCC to their respective councils and their subsequent appointment as their Councils representative on the LARMCC. In fact the individual representative membership of the LRMCC changed significantly with a total of three new members out of the five local government representatives. Consequently, it was critical to re-establish the previously achieved cooperative gains as quickly as possible once the process of regular LRMCC and LRTSG meetings resumed after the elections.

Bowman & Hampton (1983) and Jones (1983) have discussed the role of local government as a contributor to democracy through the educative role it plays in training citizens for higher office. If this hypothesis can be extended to public participation exercises it may be argued that CCCs can also provide a similar function. In fact, in the case of the Logan-Albert initiative, the LRCCC did act as a training ground for the two LRCCC members who eventually gained political office as councilors on their respective councils.

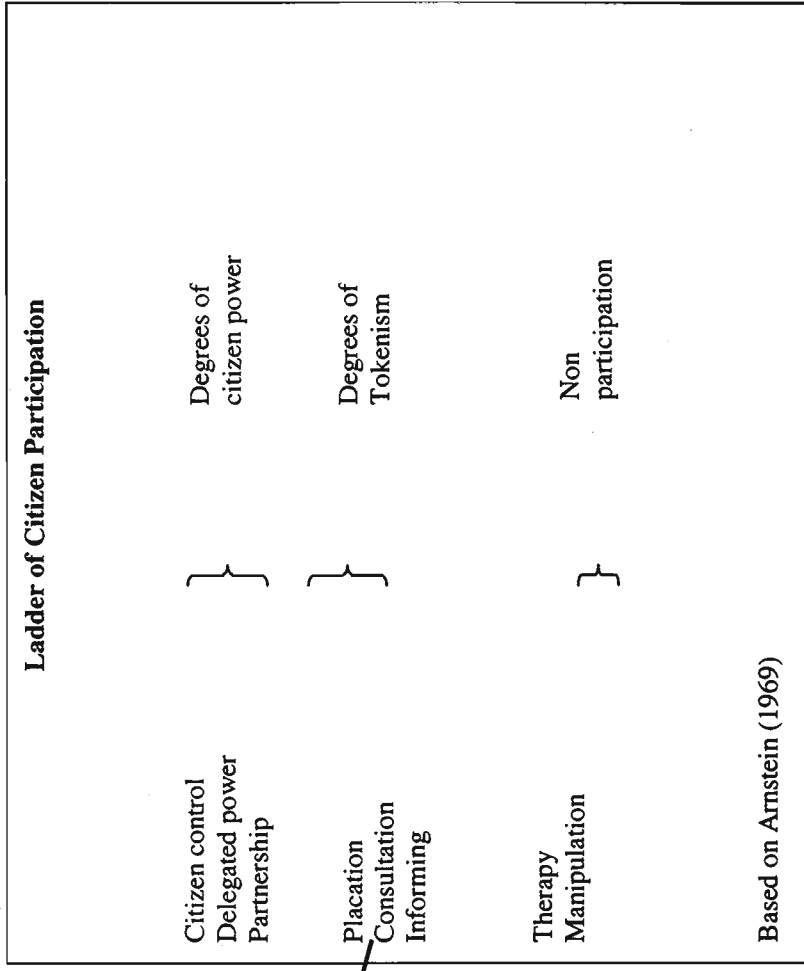
A diagrammatic representation of two clearly separate spheres of opportunities for individual members of the public to become involved in public policy making is provided in Figure 8.9. One acknowledges involvement in the conventional political sphere (Milbrath, 1965) and the second, in the emergent citizen participation arena (Arnstein, 1969). Both the respective works of Milbrath and Arnstein recognise a hierarchical arrangement of increased involvement for an individual participant in both spheres and consequently the diagram can be laid out to reflect the parallel nature of these two concepts. The diagram also recognises that a sharp dividing line exists between both spheres of public policy development activity in terms of the selection process of participants, their legal responsibilities and accountabilities, the nature and characteristics of the public office held; and the powers associated with different spheres and individual positions within those spheres.

Figure 8.9 is laid out so that the pathways that individuals may take to become involved in public policy making can be traced regardless of whether it is in the political or the citizen participation sphere, or a combination of both. Crossovers between public participation and political involvement can thus be traced in this manner. The arrow superimposed onto Figure 8.9 in fact illustrates the pathway that the two newly elected councilors used in the 1994 local government election to move from their previous involvement in the Logan-Albert initiative as members of the LRCCC to elected officials in RSC and BSC.

POLITICAL INVOLVEMENT



CITIZEN PARTICIPATION IN PUBLIC POLICY MAKING



KEY: ← — 1994 Election pathway for two LRCCC members cited in text

Figure 8.9: Pathways within and between Public Participation and Political Involvement Spheres in Public Policy Making

In the post 1994 election era, both councillors would seek and gain their respective council's nomination as the representative on the LRMCC. The motives behind decisions to seek a higher degree of personal and public involvement can be many and varied. One councillor had a strong environmental agenda and came to the original LRCCC as the representative of the state's commercial fishing organisation (he was the Chair of that organisation's environmental committee). His environmental interests and concerns ranged from fish breeding grounds and stocks in Southern Moreton Bay and the estuaries of rivers such as the Logan, to the use of chemicals for mosquito control. Consequently, he claims that it was his strong environmental stance that motivated him to increase his involvement from the voluntary citizen's sphere to full political commitment as an elected official of local government. In the case of the second councillor, he came from a farming background and originally represented a local upper catchment Landcare group on the LRCCC. He claimed that his motives were to safeguard and promote the interest of the farming community in the catchment. He also sought to explore the opportunities that might come from the recognition of the Logan-Albert initiative as an official ICM project. However to do this he had to establish his council as a full and participating member of the Logan-Albert initiative which as previously noted, occurred at the end of 1994.

Hence the LRMCC now had four of its five local government members who had actively sought to be their respective council's representative on the management committee and who had definite views on future river management and use. The coalescing of these individual views into a corporate position would emerge towards the end of this Consolidation Phase.

b. Terms of reference

The Terms of Reference (TOR) which had previously been agreed to in their initial form in association with the proposed organisational structures during the Formative Phase represent a further example of the cyclic nature of the cooperative planning process. Whilst the broad aims of the LRMCC, the LRTSG, and the proposed LRCCC had been generally agreed to during this earlier phase, it was important to reconfirm them in their upgraded form in acknowledgement of the Delphi study results, the subsequent extension to include the Albert River catchment, and in the light of the new membership subsequent to the March 1994 elections.

The confirmed aims for the LARMCC became:

- (i) to provide a coordinated approach to the planning and management of the Logan and Albert Rivers as regional resources;
- (ii) to procure assistance and technical advice in the management responsibilities of the various administrative authorities;

- (iii) to provide a mechanism/forum for liaison and dialogue between local authorities, relevant state government authorities and interested groups with a mutual interest in the future use of the Logan and Albert Rivers as regional resources;
- (iv) to facilitate the development of a coordinated management strategy for the Logan and Albert Rivers whilst accounting for the priorities of planning circumstances of the various participating local authorities and government agencies; and
- (v) to investigate potential opportunities for public participation in the future planning and management of the Logan and Albert Rivers as a regional and community resource and to assist with the formation of a LARCCC.

Hence the regional scale for planning and management consideration was reconfirmed by these Aims along with the cooperative focus in both a horizontal sense (between local authorities) and in a vertical sense (between local and State government agencies). In reconfirming the cooperative approach, the Logan-Albert initiative maintained its distance from a full collaborative approach by acknowledging the autonomy and freedom of action of its participating member councils. The door was still ajar for a more inclusionary approach involving greater public involvement in this cooperative venture.

The aims of the LARTSG became:

- (i) to provide technical support, back up and advice to the LARMCC;
- (ii) to provide coordination and liaison with the individual local authorities and the LARMCC and between various state agencies operating within the catchment; and
- (iii) to consider and advise on matters referred to it by the LARMCC.

The aims of the LRCCC (started in Nov 93) are set out below in Section 8.4.3b. The guidelines associated with its establishment are also discussed.

8.4.2 Conflict Resolution and Management

There were three principal occasions early in the history of the LARMCC when the initiative provided a forum to resolve cross border differences between local authorities within the catchment. These incidences included:

1. A rezoning application to Albert Shire for approval of a sand and gravel extraction application. The site was a downstream Logan River location on the border between Logan City and Albert Shire. By mid 1990, this incident had degenerated into a public slanging match between elected representative of both councils (see *A&LN*, 22nd Jun 90; *A&LN*, 18th Jul 90; and *A&LN*, 17th Aug 90). Subsequently, this issue was brought into the LRMCC forum for resolution. Sand and gravel had earlier been identified during the first round Delphi study as a priority management issues by ASC, LCC, BDSC and the GCWA

(Background Brief, 2nd Jun 89). As part of the initial information gathering by the LRMCC assisted by the LRTSG, the Mines Department had prepared an initial report: "Extractive Resources of Logan River and Adjacent Areas", circa Feb 90 (see Section 8.3.3). However, subsequent attempts to have this preliminary work upgraded by the State Government were unsuccessful. These events occurred as the ASC rezoning case was unfolding. Consequently the LRMCC resolved to complete its own study and called for expressions of interests from interested consultants to undertake this study (LRMCC Minutes, 20th Jul 90 and *Courier Mail*, 28th Jul 90). This collaborative study was completed with joint funding and project management coming from the two principal local authority stakeholders. This initiative led to the development of a joint policy for sand and gravel extraction in the lower reaches of the Logan River⁹.

2. Perhaps a prime example of the effectiveness of the LARMCC initiative to function as a conflict management forum was in the case of the Davis Gelatine development proposal at Bromelton in Beaudesert Shire. BDSC had identified Bromelton as a rural industrial site in their town planning scheme and were actively promoting its development. This site was located adjacent to the Logan River to the west of BDSCs principal town of Beaudesert. Towards the end of 1991, the State government had successfully negotiated the relocation of the AJ Bush animal waste recycling plant from the mouth of the Brisbane River to this rural site - an election promise of the Deputy Premier in the first Goss ALP government. At the same time, Davis Australia Co Pty Ltd was seeking BDSC approval for their rezoning application and development permission to establish a gelatine manufacturing plant and associated irrigated farming operation within the Logan River floodplain adjacent to the Bromelton estate. The latter proposed activity was essentially to address their wastewater disposal needs.

During BDSCs consideration phase for the development application, a number of articles appeared in the local press expressing concern for the potential environmental impacts that this proposal may have on the Logan River (see *A&LN*, 27th Mar 92; *Gold Coast Bulletin*, 28th Mar 92; *Courier Mail*, 28th Mar 92). These articles quoted a number of Aldermen from councils adjacent to BDSC but who were not their council's representatives on the LRMCC. This prompted a response from the LCC representative on the LRMCC to the effect that her fellow LCC Alderman was premature in his comments and was "frothing at the mouth about court action (*against Beaudesert*) ". Her support for BDSC is an indication of the corporate view that had developed amongst the elected members of the

⁹ Due to the division of legislated State agency responsibility for in-stream management which used the limit of the tidal reach as a demarcation point (see Figure 3.6), BDSC in conjunction with the WRC undertook a separate study for the upstream areas.

LRMCC by that time. This was further evidenced by her statement that "this gelatine plant is a regional issue and each council should be responsible for managing the Logan River in all respects the plant should reinforce our responsibilities in working towards a joint coordinating management strategy We will be looking at the facts (*of the proposal*) and how they conflict with the objectives of the LRMCCC " (*A&LN*, 1 Apr 92).

The proposal had been briefed to the members of the LRMCC at their May 1992 meeting and it became a standing agenda item at subsequent meetings. In time, BDSC rejected the application but Davis Gelatine appealed the decision to the Planning and Environment Court. In a display of unified support for BDSC, the LRMCC resolved that the professional services of the Facilitator should be made available to the BDSC in the "ensuring legal proceedings in relation to the Davis Gelatine rezoning proposal" (LRMCC Minutes, 2nd Oct 92). Further support came in the form of offers of financial support to BDSC in their forthcoming legal battle. The Chairman of LCCs Town Planning and Environment Committee was quoted publicly, commenting "Logan City and Redland and Albert Shire Councils were considering donating money to support Beaudesert Council in its fight against Davis Gelatine the four councils share a common asset in the Logan River there is a new spirit of cooperation among local authorities" (*A&LN*, 6th Nov 92)¹⁰.

3. BDSC Vs LCC over alleged LCC comments on BDSCs Draft Strategic Plan being published in a local Logan City newspaper. It was reported that Councillor Y who represented BDSC on the LRMCC felt "that the spirit of cooperation has been compromised by the publication of Logan City Councils comment on Beaudesert Shire Councils Draft Strategic Plan in the *Southsider* dated 28/10/93" (see LRMCC Minutes, 29th Oct 93). The issues related to a lack of an adequate process for a local authority to comment on its neighbouring local authority's draft planning schemes. It was resolved to pursue State government (DHLGP) changes to, and development of, procedures through the SouthROC forum.

As previously noted, the Logan-Albert initiative was born out of a shared vision as opposed to conflict amongst its partners and therefore conflict resolution was not an original intent for its establishment. However as these examples demonstrate, it could and did function in that capacity when the occasion arose. Again, other examples attest to its utility to perform a conflict management role as well. This puts the Logan-Albert initiative at difference to the pure cooperative attributes that were identified in Table 4.2, Section 4.1.

¹⁰ In a decision handed down in May 1993, the Planning and Environment Court awarded the appeal to Davis Gelatine. The individual local authority contributions to BDSCs legal expenses was \$8000 each.

The case of the Davis Gelatine development also demonstrates the role that the LRMCC initiative played in achieving a unified, cooperative, and regionally focused position. If the earlier public statements and positioning by some elected officials can be used as a guide, it is possible that this situation could have ended in open and public conflict amongst the local authorities in the Logan catchment. However the LRMCC provided a forum to contain this potential conflict as well as a mechanism for the development of mutual trust to the extent that the individual members developed a corporate view and exercised mutual support for regional issues in the catchment.

8.4.3 Organise Subgroups

Here subgroups are organised to examine specific issues or to undertake specific tasks. The breadth of their interest can be extensive, as the following examples will illustrate.

a. Technical sub groups

During the course of the initiative, a number of technical issues emerged which required addressing on a cooperative basis across the catchment. To this end the mechanisms of the LRMCC and the Logan-Albert initiative as a whole were utilised. Two examples serve to illustrate this aspect of cross border cooperation, namely: the development of a joint "Flood-Fill" policy for the Logan River which all local authorities would exercise; and secondly the undertaking of a joint sand and gravel extraction study (see Section 8.4.2 (1) for background details).

These cooperative technical studies required the establishment of technical subgroups largely based on the membership of the LRTSG, and which would be constituted only for the life of the specific project. The Facilitator provided the coordinating links between these specific sub groups and the LRMCC.

The conduct of these sub groups and the details of their investigations are outlined below in Section 8.4.4a.

b. Community Consultative Committee

As previously noted, proposals to engage the community through a formal process of public consultation had been associated with the Logan-Albert initiative since its inception in 1989. This was confirmed by early newspaper articles reporting the establishment of the initiative which commented "the committee will also investigate how the public can become involved in the future planning for the river as a regional and community resource" (*A&LN*, 8th Dec 89). However as noted in Section 8.3.4, this was a long drawn out process and the proposal did not mature until November 1993 when the LRCCC was officially recognised although earlier

meetings of this group had been convened since the June 1993 Community River Search workshop.

The stated aims of the Logan River Community Consultative Committee were:

- (i) to advise the LRMCC on a range of catchment scale issues of an environmental, social, economic and cultural nature;
- (ii) to act in a liaison role between the LRMCC and the local community groups and organisations within the catchment;
- (iii) to advise the LRMCC on priority issues of catchment wide scale and significance;
- (iv) to promote and facilitate a high degree of public participation in catchment affairs, in particular, any planning undertaken at the catchment wide scale;
- (v) to improve public awareness of the catchment and it's river and of issues of important to the future development of the catchment; and
- (vi) to consider and advise on matters referred to it by the LRMCC from time to time.

Surprisingly and despite the early attempts by the elected members of the LRMCC to strictly control the recruitment of members to the LRCCC, the eventual composition of the inaugural committee reflected a reasonable representation of the catchment's population and their interests. The original membership of twenty-three representing some seventeen organisations and community groups that were approved by the LRMCC are summarised below (LRMCC Minute, 3rd Sep 93).

Table 8.1: Distribution of LRCCC Membership by Representational Interest and Local Authority (1993)

	ASC	BDSC	BSC ¹¹	LCC	RSC
Resident (usually riverside)		1		2	
Progress Association/Chamber of Commerce	1	2		1	
Commercial interest	1		1	1	2
Conservation group				1	1
Student/Youth representative				3	
Recreation/Tourism interests	1			1	
Rural interest (including Landcare)		3	1		

This distribution by interest group and by local authority area, reflects the differences in both the population size of the various local authorities and in catchment-wide interests that could be anticipated from those areas. This was particularly the case in terms of the divergent rural versus urban interests in the catchment as previously noted.

¹¹ Although BSC did not become a member of the LARMCC until November 1994, individual residents from this local authority area were members of the LRCCC as representatives of their interest groups before that time.

The detailed guidelines for the establishment of the LRCCC that were approved by the LRMCC are outlined in Appendix 8.3. An examination of these guidelines illustrates the difficulty in applying them rigidly to the realities of the situation where it was basically a self-selection process on the part of individual members or organisations to become involved, regardless of the attempted intervention and manipulation by the elected officials in establishing this CCC. In order to progress matters, the Facilitator recommended that the CCC be seen as an interim committee and where "the various proposals for ongoing community participation in the catchment planning process will provide opportunities to refine the composition and focus of the final LRCCC. However, it is important for the credibility of the process to have community involvement and input now and consequently it is recommended that an interim LRCCC be established now". This recommendation was adopted and the LRCCC came into being officially from September 1993 (LRMCC Minutes, 3rd Sep 93). It met officially for the first time on 26th November of that year.

Within a year, the composition of the original Interim LRCCC had changed in a number of significant ways. Firstly two of the original members had crossed over from the public participation sphere to the political sphere to become elected officials on their respective councils (previously discussed in Section 8.4.1a and Figure 8.9). Mention should be made at this point of the concerns that elected members of the LRMCC had in relation to the nomination of members of the LRCCC for political office in the forthcoming March 1994 local government election. After much debate as to whether these members were eligible to continue to serve on the LRCCC, they resolved that "elected representatives and people nominating for elected representation have no voting rights on the Logan River Community Consultative Committee" (LRMCC Minutes, 3rd Dec 93).

Further restructuring occurred when the LRMCC resolved to accept an approach from the Logan River Area Committee for Sport and Recreation for its amalgamation with the LRCCC and for the transfer of the former organisation's funds to the LRCCC (LRMCC Minutes, 29th Oct 93). The Logan River Area Committee for Sport and Recreation was nearing the end of its tenure and was about to be dissolved by the State government at that time. Other adjustments to the composition of the membership occurred as a consequence of expected changes to a growing catchment community typical of the Logan-Albert case generally.

The 1994 membership details, one year on from its original formation, are compared with the original membership characteristics in Table 8.2.

Table 8.2: Distribution of LRCCC Membership by Representational Interest and Local Authority (1994)

	ASC	BDSC	BSC	LCC	RSC
Resident (usually riverside)		1		2,(4)	
Progress Association/Chamber of Commerce	1,(1)	2,(2)		1,(1)	
Commercial interest	1,(2)		1	1,(2)	2
Conservation group		(1)		1,(1)	1,(1)
Student/Youth Representative				3,(2)	
Recreation/Tourism interests	1,(2)			1,(1)	
Rural interest (including Landcare)		3,(3)	1,(2)		

KEY: 1 - 1993 membership (1) - 1994 membership

The LRCCC soon developed a routine of two-monthly meetings conducted at different venues around the catchment and incorporated a series of guest speakers into their formal meeting programs. After the initial sponsorship from the LRMCC, the LRCCC took full responsibility for their own activities. Unfortunately after nearly two years of operations the committee had become inactive by mid 1995.

No serious attempt was made to re-establish this committee until 1997 when it was clear that such a community link would be necessary in order to fulfil the requirements of a cooperative planning exercise that the LARMCC had then embarked upon. In October of that year, the LARMCC had given support to the establishment of a new Community Consultative Committee that would include the Albert River catchment and after referral back to their respective councils for endorsement, it was given final approval (LARMCC Minutes, 28th Nov 97). This initiative came in response to a submission from the Facilitator for the adoption of a strategy for community participation in ongoing planning and management for the case study area (Low Choy and Davies, 1997). This report took into account the results from a survey of former LRCCC members conducted during 1997. This review was completed in an effort to avoid the problems faced by the previous committee, and to improve the operation of the new committee (Low Choy and Davies, 1998). The results from the survey of original participants were used to inform the proposals for the conduct of the new committee. The principal recommendations that stemmed from this survey of 60% of the original membership are set out in Appendix 8.4. In summary, the key findings of relevance included:

1. *Reasons why meetings stopped:* responses ranged from 'no useful outcomes in sight', 'being bogged down in bureaucracy', 'too wide an agenda', 'lack of interest from local authorities' and 'poorly organised and attended meetings'. It "ran out of steam"; and
2. *Perception of opportunities to contribute:* members surveyed perceived that they had a range of opportunities to contribute to the cooperative planning process. In terms of Arnstein's Ladder of Community Participation, these opportunities ranged from 'manipulation' to 'citizen control' - see Table 8.3. However, this situation varied

significantly to the positions on the Ladder where they considered the LRCCC should be operating. Clearly the tabulated responses (Table 8.3) indicate that half of the past LRCCC members surveyed felt that they should have significantly more involvement and control over the cooperative planning process.

Table 8.3: Distribution of LRCCC Members' Perception of LRCCC Activities relevant to Arnstein's Ladder of Community Participation
(% of LRCCC members surveyed)

Nature of participation (Arnstein's Ladder)	Members' perception of where LRCCC was operating	Members' perception of where LRCCC should be operating
citizen control		25%
delegated power		
partnership	25%	25%
placation	17%	
consultation	17%	8%
informing	25%	
therapy	8%	
manipulation	8%	
<i>no response</i>		42%

The resultant report that recommended a strategy for community participation in ongoing planning and management made important linkages to the 'public participation' and 'education and awareness' principles contained in the WCM principles which the LARMCC had previously adopted (see Appendix 8.2). It also undertook to raise the LARMCC members' awareness and confidence in dealing with public participation through examples derived from research. To this end the report specifically:

- reviewed experience of community participation in catchment management in Australia and overseas;
- identified opportunities and processes for community participation in proposed Logan and Albert Rivers catchment management planning;
- defined a rigorous process for stakeholder identification and analysis relevant to the Logan and Albert Rivers catchment; and
- made recommendations on initial processes for deriving catchment-wide and significant policies that are based on, or informed by, stakeholder-set priorities.

A series of twelve specific recommendations were made to the LARMCC which included the adoption of a "middle-ground" approach to community participation through the establishment of a LARCCC inclusive of both river catchments. It was also argued that through the inclusion of community participation in all of the important stages of decision-making, the LARCCC would become a collaborative and participatory process for community participation.

Thus the challenge at this stage in the reconstitution of a LARCCC lay in ensuring that a balance could be achieved between the desire to achieve adequate representation and establishing an operationally effective committee. In this regard it was acknowledged that there were several possible methods for the establishment of the CCC which varied depending on the level of interest there was in catchment issues. These are summarised in Table 8.4.

Table 8.4: Options for Establishing a Community Consultative Committee

Level of community interest	Methods for deciding on community representation	Strengths/ Weaknesses
High (perhaps with previous conflict)	Formal ballot or similar (perhaps organised by Electoral Commission); Number of positions determined by government officers followed by call for nominations.	Democratic; Tries to reduce bias; Requires full community interest and participation; Assumes government is unbiased.
Medium	Public meeting to endorse representatives whose involvement has been canvassed. (eg identify key leaders in community and choose from these a group who could adequately represent all sections of the community (each could represent more than one set of interests); Call public meeting to form the group.	Need large number of people at a public meeting to vote on membership.
Low	Selection of community-nominated representation by government officers. (eg. Government calls for nominations, representative group chosen; group composition open to public review).	Can be a way to stimulate interest in WCM; Chosen representatives may not be owned/acknowledged by community.

(Source: drawn from Wilkinson and Barr 1993:128; Dick 1990:41-58)

The LARMCC chose the "middle ground" option based on the Facilitator's recommendations that required:

- key people and groups already involved in catchment management to be identified;
- the identification of other interests which should be included followed by proactive recruitment of people who can adequately represent those interests;
- agreement on how the range of interests, groups, geographical areas, land-use activities, and types of people will be best reflected in the LARCCC membership;
- the recruitment of an interim LARCCC either before or at a future Community River Search Workshop and the gaining of community endorsement for the committee; and
- working with this interim committee to finalise its long-term membership as well as defining its future and ongoing roles.

Thus the establishment of the CCC had improved in democratic terms as it moved from the 'low' option that had applied in the case of the first LRCCC to the 'middle' option in the case of the second CCC.

The first meeting of all interested parties was held in October 1998 and an Interim Committee was formed. Again, a representative from the LARCCC was appointed a member of the LARMCC to act as a liaison between the two committees. The aim of this new committee was to ensure that it was representative of the stakeholders and interests in the catchment and that it ensured community views were heard in the development of catchment policies. It was also intended that the Interim LARCCC would play a major role in assisting with the planning and conduct of the Community River Search Workshop to be held in July 1999.

The original report to the LARMCC to re-establish the LARCCC provided guidance based on the lessons from past experience and recommended a procedure that utilised a rigorous stakeholder analysis to engage the key community groups and principal stakeholders in the catchments of both rivers (Low Choy and Davies, 1997). Through this process which involved extensive media notices, phone contacts and networking within the catchment communities, over 200 people had registered an interest in the project¹². A final list of 59 people indicated that they were interested in serving on a CCC. After a series of initial meetings in various centres around the catchment during late 1998 and early 1999, a final, self-selected membership of twenty persons formed the reconstituted LARCCC. This group included three members from the original 1993 LRCCC. The 1999 membership is compared with the original membership from the formative years of the LRCCC (1993 and 1994) in Table 8.5.

Table 8.5: Distribution of LARCCC Membership by Representational Interest and Local Authority (1999)

	ASC	BDSC	BSC	LCC	RSC
Resident (usually riverside)		1		2,(4),[2]	
Progress Assoc/Chamber of Commerce	1,(1),[1]	2,(2),[2]		1,(1),[3]	[1]
Commercial interest	1,(2)		1	1,(2),[1]	2
Conservation group	[2]	(1),[1]	[1]	1,(1),[1]	1,(1)
Student/Youth Representative				3,(2)	
Recreation/Tourism interests	1,(2)	[2]		1,(1)	
Rural interest (including Landcare)		3,(3),[3]	1,(2)		

KEY: 1 - 1993 membership (1) - 1994 membership [1] - 1999 membership

The size of the LRCCC/LARCCC has not varied significantly during its lifespan, remaining relatively stable, around the low twenties – see Table 8.5. This table also indicates that there has not been any significant change to the relative representation from throughout the catchment. The relative representation from the individual local authority areas has not changed to any significant extent although the 1999 membership indicates a drop in representation from

¹² To improve awareness and interest in the community participation process, all owners of riverside freehold land were also notified of the cooperative activities. Council rate records were used for this purpose. It was a time consuming task that yielded very little of the intended results in terms of increased members for a CCC.

BSC and RSC both of which have been traditionally low. These two local, authorities have minimal river channel frontage (see Annex A to Appendix 7.1) and they are at the geographic extremities of the case study area. The most noticeable increase in interest appears in the steady increase in membership from conservation groups, who now constituted half of the LARCCC membership. This is not surprising given the increase in public awareness in river related issues during the past decade together with the significant increase in urbanisation in the lower reaches of the catchment. There is also a recorded increase in the level of involvement from progress associations, chambers of commerce and-the-like, presumably for the same reasons as the conservation groups interests.

Whilst rural interest groups, recreation and tourist interests have remained stable, they are still noticeable represented on the committee. On the other hand, commercial interests have declined sharply in membership as has youth representation, despite early attempts to encourage their membership on the CCC and their involvement through the teacher's network.

Some of the major lessons and ongoing challenges to emerge from these community participation exercises have included the difficulty in identifying regional scale community stakeholder groups and establishing the bona fides and credentials of existing community groups. Some groups are not what they publicly appear to be and had hidden agendas. Their real agenda may have been to sabotage the process for personal gain (eg riverside landowners not wishing to have additional constraints placed in their way and their desire to use their land in whatever manner that suited them personally). These stakeholders were able to use the potential river conflicts to pursue their own agendas. It may also be in their interests to keep outside of the cooperative process.

c. Teachers network

A proposal to involve local schools in the activities of the Logan-Albert initiative had originally been promoted from the outset of the initiative in 1990 when it was resolved "to assist local schools to compile a Teaching Resource Kit (LRMCC Minutes, 23rd Feb 90). However, this initiative was not seriously tackled until LCC appointed a full-time environmental education officer who could then act as the point-of-contact and facilitate and organise the activities associated with this initiative. The inaugural meeting of interested teachers from schools in the catchment was held in November 1997 with some fifteen in attendance. The aims of the meeting were:

1. to create a network of teachers from schools within the catchment interested in developing catchment materials for teaching;

2. to canvass how teachers can access and use environmental data associated with the Logan-Albert initiative; and
3. to explore funding opportunities in order to undertake teaching and learning initiatives related to the above aims (LARMCC Minutes, 28th Nov 97).

The resultant Logan and Albert Rivers Catchment Teachers Network (LARCTN) then set about organising their inaugural Logan and Albert Catchment Congress, which was conducted on 15th October 1998 at the Kingston Butter Factory in Logan City. Nine schools were involved with the program (eight from LCC area and one from BDSC area), one university, five State agencies and four local authorities. Students from these primary and secondary schools were brought together at the Kingston Butter Factory for a day's activity involving project work (ranging from artwork, drama, and song to scientific studies), posters displays and competitions. It was a highly successful activity, which has continued on an annual basis.

8.4.4 Conduct Joint Fact Finding

During the course of the Consolidation Phase a number of joint fact finding exercises were undertaken. They had the effect of further promoting the benefits of a cooperative approach, building on the mutual trust and confidence that had already been developed, and contributing to the stock of social capital being generated within the catchment communities from these cooperative efforts. These activities also provided opportunities for the exchange of information between stakeholders and participants of the initiative. In some instances these activities allowed for the articulation of individual concerns and reservations within this cooperative environment that had been established by the Logan-Albert initiative. In this manner potential conflicts could be managed and closer degrees of cooperative effort attempted. Selected examples of the cooperative activities in the area of joint fact finding are discussed below.

a. Technical cooperation

These examples have previously been introduced in Section 8.4.3 and include:

1. *Joint Flood Plain Management*: LCC engineers had initiated work on the development of a flood plain filling policy in 1990 as part of Council's existing policy in relation to rezoning, subdivision and building in areas liable to flood. It was noted at the time that council's current approach was ad hoc and was being applied in a fragmented manner and could not apply across the entire catchment due to jurisdictional divisions between the local authorities. The need to incorporate provisions in the forthcoming strategic plan review also drove this initiative. After a period of jointly funded engineering and modelling studies, a final report on a flood plain management policy for the Logan River and its tributaries was accepted by the various councils. In time a Joint Floodplain Management

Group was established under the auspices of SouthROC to oversee the implementation of the Local Law dealing with these issues. It had links back to the LARMCC through a number of joint members including the chair of the former group (Minutes of Joint Flood Plain Management Group, 14th Mar 96).

2. *Joint study into sand and gravel extraction*: the background to this initiative has previously been introduced in Section 8.4.2 (1). As previously noted, this was a project that was jointly funded by the two principal local authority stakeholders (LCC and ASC). The initiative led to the development of a joint management policy for sand and gravel extraction in the lower reaches of the Logan River. Whilst this initiative demonstrated cooperative intentions between ASC and LCC who shared a common boundary in the Logan River, it was unable to achieve a full cooperative partnership on this policy issue for the whole catchment due to different jurisdictional responsibilities being exercised by different state agencies. In the case of the Logan River, this meant that the upper catchment authorities were WRC and BDSC as opposed to the DoT, ASC and LCC in the tidal reaches. This issue was previously acknowledged in Section 8.4.2(1) see Footnote. This case represents an example where cooperation or coordination amongst local governments can only be achieved if facilitated through a top down intent and commitment by a higher order level of government.

b. University Student project work

During the early phase of this cooperative initiative, there were limited resources to undertake joint fact finding exercises of a generic nature. In-kind contributions from the member organisations would assist but that information had to be collated, analysed and presented back to the collective group (LARMCC) for their deliberations. Only through collective efforts in this analysis phase could benefits be derived that could enhance the cooperative initiative. Consequently, a number of post-graduate level landscape planning studies were commissioned by the LRMCC using the Landscape Planning Group at QUT in their research and planning role. The two principal pieces of work completed in this manner included:

1. *Logan River: Towards a Management Strategy*: this study focused on the river corridor. The preliminary rounds of the Delphi study had identified a range of river issues related to community use of riverfront land, particularly for recreational and tourist use and the need for a conservation strategy to address the ecological and conservation concerns along the river (see Section 8.3.1). The study sought to focus attention (and thereby the attention of the LRMCC) on a range of key issues including river systems dynamics; ecological conservation; rural land use; riverfront development; river use capabilities; river accessibility; and extractive industry (Landscape Planning Group, QUT, 1990).
2. *Logan River Catchment: Landscape Planning Study*: this second study had an ambitious aim in endeavouring to generate an action plan to facilitate sustainable development at a

regional scale across the catchment. It delineated the catchment into eight management zones, including zones for: urban and rural settlement; ecologically sensitive areas; river corridor; nature conservation; prime agriculture; rural nature conservation; rural sensitive areas (enhancement of rural character in upper catchment areas); and rural management which retains the dominant rural character of the area (Landscape Planning Group, QUT, 1991).

These studies were strongly underpinned by the philosophy of landscape planning which has previously been discussed in Section 5.3.1. This was an emergent field of study in Australia at that time (and still is to a large extent) and it presented some philosophical challenges to some of the conventional planners, administrators and decision-makers who were more accustomed to dealing with the traditional command and control forms of statutory planning endeavour.

Whilst both studies had been commissioned by the LRMCC and member councils were kept fully briefed as they progressed throughout their respective semesters they failed to gain universal support from member councils of the LRMCC. The main objections came from the upper catchment rural based local authorities. BDSC strongly objected to any external influences on their domestic policies and town planning scheme. This attitude was reflected in their mayor's comments at one LRMCC meeting where he "expressed some concern that the matters raised in the draft of the catchment strategy were cutting across local authority matters". This view was reconfirmed in a subsequent response to the LRMCC that stated "council noted the contents of this study (*and*) advise that council is of the view that the study will be used as a significant resource document, but cannot be adopted as the proposed management strategy is inconsistent with Council's current Strategic Plan" (BDSC correspondence, dated 23rd Jan 92). These claims required continuous reassurances to the effect that "the purpose of this committee was not to impose the Committee's ideas on local authorities but rather to exchange views and ideas regarding the river and to detail the action that each local authority was taking to preserve it" (LRMCC Minutes, 29th Sep 91).

On reflection, there can be no doubt that the conduct of these studies was premature. The necessary level of trust had not been established nor could the study's planning process (largely an academic student-based exercise) adequately maximise LRMCC members participation. These endeavours require a considerable amount of time not just to build up trust and mutual understanding but for the participating partners to learn from the experience, digest and comprehend the feedback from the exercise, and then modify their management decisions and activities accordingly.

The fact that these studies were student exercises imposed a number of additional constraints not normally associated with planning studies of this nature, including the fact that they had to be limited to the university semester timings and academic objectives had to prevail. Besides these challenges, it also meant that they had no real standing and individual councils were free to ignore their findings and recommendations. This latter point confirms the previously noted distinguishing characteristics of cooperative undertakings where the participating members combine their efforts to pursue an agreed aim but retain their autonomy and freedom to pursue their own individual goals (see working definition for this study - Section 4.1).

Never-the-less, these studies did pave the way for a forward (strategic) appreciation of selected regional- scale issues of collective concern, even if only in an introductory sense. The fact remained, the issues were noted and they remained on the table for the collective consideration of the cooperative group into the future.

c. Community participation process

A river search conference had originally been proposed as part of the proposals for community participation that was associated with the original program for Logan River Week. However it would be some time before the necessary elements could be assembled in preparation for the conduct of such an event. This situation materialised during the end of the Gestation Phase in 1993. By that time essential elements had been completed including: a set of guiding principles (WCM Principles); a priority list of key management issues (from the Delphi study); a stakeholder analysis (including a listing of potential members for a CCC); and lastly, sufficient confidence and mutual trust amongst and partners of the initiative for this very public event to proceed. Importantly, there were also sufficient resources available for its conduct as well as support from the member agencies of the LRTSG.

The first Community River Search Workshop was held on 11th June 1993 at the Kingston Butter Factory in Logan City (*A&LN, 4th Jun 93*). Its objectives were:

- (i) to ascertain the catchment communities' perceptions of river related key issues and priorities for management;
- (ii) to provide the catchment communities with information concerning existing planning and management arrangements for the Logan River; and
- (iii) to seek community support for the establishment of a Community Consultative Committee.

The workshop took the form of two alternative 3 hour workshop sessions (afternoon and night) supported by displays supplied by the local authorities and State agency members of the LRTSG. Over fifty persons attended representing a wide range of some fifteen different

organisations and community groups from within the catchment. The distribution of participants from within the catchment was:

ASC	10.0%
BDSC	22.5%
BSC	2.5%
LCC	42.5%
RSC	7.5%
External	15.0%

The workshop achieved all of its objectives and its principal outcomes were a list of people interested in serving on a CCC (see Section 8.4.3b), and a prioritised list of the community's key issues of management concern for the catchment (see Appendix 8.5). This Appendix contrasts the Community's priorities with those of the public agency managers which had been ascertained earlier through the Delphi study (see Section 8.3.1, Section 8.5.1 and Appendix 8.1).

Most noticeable from this comparison of key issues contrasted in Appendix 8.5 is the significant difference between the public managers and the community in their ranking of key issues such as sand and gravel extraction; urban runoff; urban development; and to a lesser extent, water quality; eutrophication; and wetland conservation. Conversely, the community response indicated a relatively strong focus on the physical infrastructural issues such as waste disposal; sewage disposal; refuse tips; and flooding. This led to the conclusion that a detailed public awareness and education process was required in order to present the community with the emergent and relevant key management issues and then to focus their attention on these issues and the options for their proper management. To this end, a detailed community participation process was devised which included the establishment of a CCC for the initiative. This would also involve a process of cooperative planning with the community groups, involving information dissemination, public discussion forums and the facilitation of interaction with the community through formal and informal means. This community participation process is illustrated in Figure 8.10.

This diagram illustrates the previously acknowledged prerequisites for the community River Search Workshop (see boxes to left side of diagram). It also places the very important stakeholder analysis in context in terms of its role in this participatory process. In order to achieve an adequate level of representation from community groups across the catchment for membership to the LARCCC and for engaging at public events such as the Workshops, it was necessary to undertake a formal and comprehensive stakeholder analysis which has previously been discussed in Section 8.4.3b.

Figure 8.10 illustrates the procedure that was adopted for the conduct of joint fact finding through cooperative endeavours that also included a process for common learning. Subsequent public participatory events included:

1. A River Forum (December 1993): attended by some fifty-five people. Attendees made presentation on topics including: river frontages; dredging; charter boats and access to parks; Davis Gelatine's EMP; use of riverbank; riverbank erosion; and LCCs Draft Strategic Plan. Some of the participants were river side landowners in LCC who took the opportunity of the Forum to voice their concerns and objections to proposals in the LCCs Draft Strategic Plan which sought to establish linear river corridors along the Logan River and provide greater public access to the river¹³. This issue of conflict that was relevant to only one of the member local authorities did reduce the effectiveness of the Forum but it also provided an opportunity to canvass views and ideas about broader issues which had hitherto been submerged (eg the establishment of river corridors); and
2. A second River Search Conference (July 1999): attended by forty-four people representing some thirty catchment organisations. It had similar objectives to the first search conference which were likewise met. The participants addressed a similar set of key management issues covered by previous conferences and workshops as well as considering a composite set of management options and actions which could form the basis of the policy development that was occurring at that time. These were contained in a series of Discussion Papers (see Sections 8.5.3 and 8.5.5).

d. Comparative review of strategic plans

A comparative review of LARMCC member Council's Strategic Plans was undertaken in order to further demonstrate to the local authority members, the need for a cooperative approach to catchment wide policy development. It sought to ascertain two principal aspects of relevance to the Logan-Albert initiative, namely:

1. how well did individual local authority Strategic Plans address the key issues of management importance that had emerged from the Delphi study at that time? and
2. to identify the existence (or otherwise) of management policies that addressed issues of regional significance at the catchment level.

¹³ Unfortunately these issues became politicised and were also caught up in the lead up to the forthcoming March 1994 local government election – see also Section 8.4.3c.

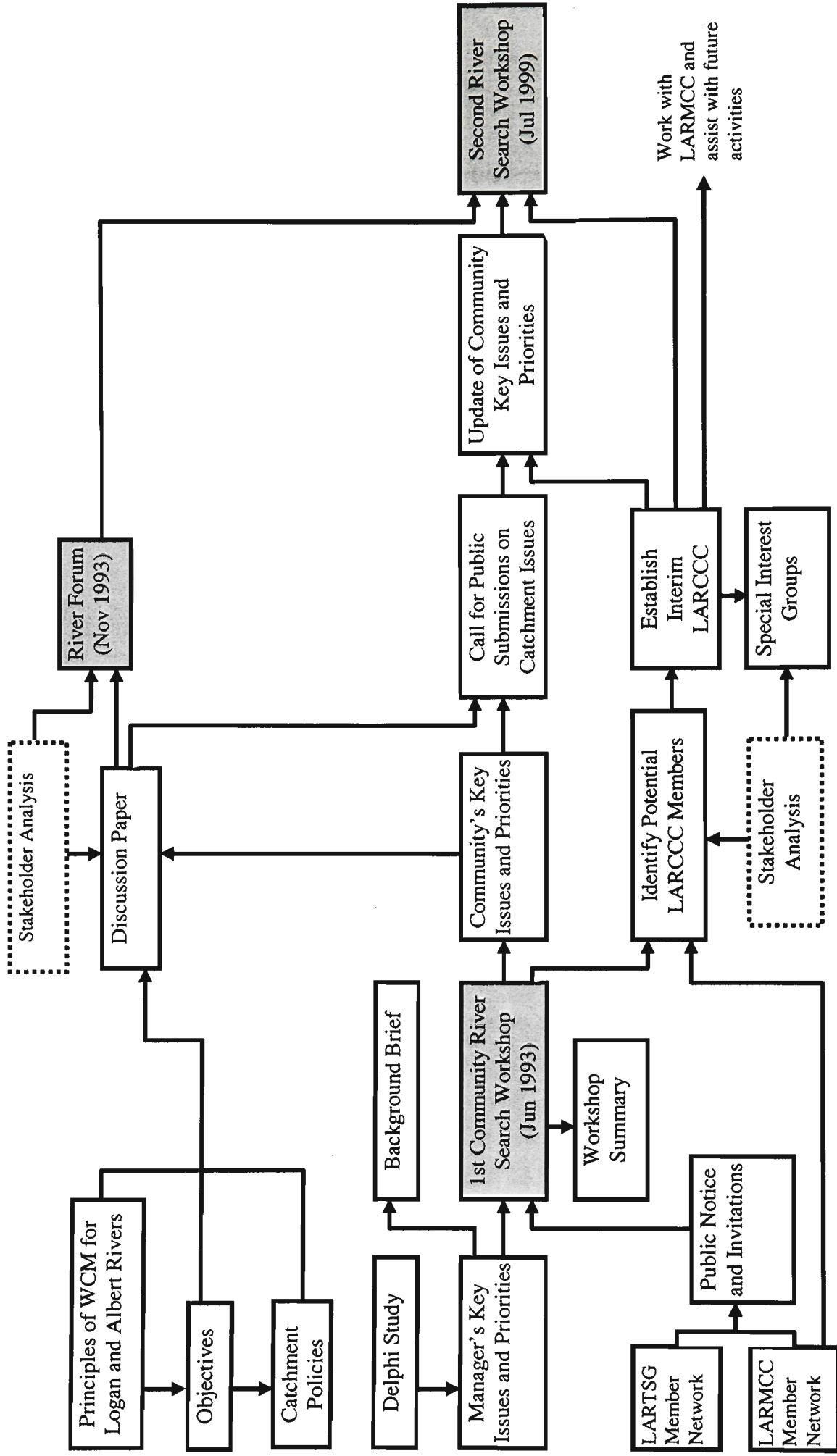


Figure 8.10: Principal Elements of the Community Participation Process of the Logan-Albert Cooperative Initiative

Three comparative reviews were conducted during the course of the case study period with each review targeting a distinct period of planning activity including:

1. 1992/93 - to analyse the early Strategic Plans of late 1980s vintage that could establish the degree and level of focus on the key issues at the Formative Phase of the Logan-Albert initiative. This could also serve as a baseline for comparative purposes with subsequent reviews of later modified or new strategic plans to ascertain how councils handled the emergent key issues of management concern to the catchment (see Appendix 8.6);
2. 1994 - to analyse the many new or modified strategic plans that were undertaken during the first half of the 1990s (see Appendix 8.7); and
3. 1999 - to compare the latest round of new or modified strategic plans that were completed in the second half of the 1990s (see Appendix 8.8).

The Strategic Plan reviews provided some insight into the individual Councils' statutory planning involvement and commitment to specific issues of concern and relevance to the Logan (and Albert) River. The analysis recorded whether the Strategic Plan (Part A and Part B) included a specific (explicit) reference to the key issue, as a planning objective, implementation action or reference. Additional implied references in relation to the Logan River were also sought. The analysis also involved the identification of any issues addressed by catchment wide policies that went beyond the immediate bounds of the local authority.

The first comparative review that was completed by March 1993 illustrated a preoccupation with physical infrastructural issues (especially water supply in the case of the upper catchment rural shires). There was virtually no focus on environmental conservation and management issues in an explicit sense. Conventional town planning issues such as public open space and flooding are however addressed. This result supports the previously discussed Hall's model of the local government "Life Cycle" (Section 8.2.2a and Figure 8.3). As would be expected, none of these early Strategic Plans incorporated any catchment wide policies in either an explicit or an implied sense. These results were used at the March 1993 LRMCC meeting to illustrate the need to address the priority key issues on a whole of catchment basis.

In the second (1994) review, it became evident that development pressures were forcing local authorities to address a whole new array of key issues associated with river management. This was most noticeable in the case of LCC where their Strategic Plan now contained explicit reference and/or objectives in Part A to such issues as recreational use of river/riverfront land; waste and sewage disposal; public access to the river; rehabilitation of

degraded land; and public open space. Reference is made to twice this number of issues in Part B of LCCs Strategic Plan. This conclusion is consistent for a rapidly growing urban area with associated growth in recreation demands particularly focused on the principal watercourse in the city.

A similar conclusion can be drawn in relation to ASC whose Strategic Plan covered many key issues of concern although only a few were specifically related to the Logan River. Those issues were sand and gravel extraction (included on the Strategic Plan Map), waterfront industry, public open space, and those associated with rapid urbanisation and subdivision development such as erosion control and runoff. The issues of waterfront industry, use for townwater supplies, flooding and recreation fishing were referred to explicitly in Part B.

Part A of the Strategic Plans for BDSC, BSC and RSC included no explicit reference to any of the Logan River catchment key issues. In comparison to LCC and ASC, fewer issues were addressed by the other three local authorities in Part B of their Strategic Plans. Those issues that were included, more than likely represented only the current priorities of those individual councils and not those of the wider catchment community. It was also noted that more issues had been addressed in the draft Logan plan that was prepared after the Logan-Albert initiative had commenced and after those issues of concern to all catchment local authorities had been identified. In the case of BDSC, there was a hint that some fundamental 'green' environmental issues were starting to emerge.

By this round of strategic plans, sand and gravel was now definitely on the agenda of all local authorities with explicit references correlating with the faster growing council areas especially in the downstream urban stretches of the Logan River. A review of the Preferred Dominant Land Use designations through which the Logan River and its tributaries flowed on each of the Strategic Plans showed a consistency of intent. This ranged from rural in the upper catchment local authorities to open space/rural (non urban) in the case of the downstream local authorities. Again, none of the Strategic Plans (including the draft versions) incorporated any catchment wide policies.

The more recent 1999 review highlighted the significantly improved focus on the catchment's key issues of management concern in all local authority Strategic Plans. This occurred in two senses. Firstly there was evidence of a growth in attention to the key issues that was demonstrated by the significant number of new policies for these themes, in comparison to earlier plans. Secondly, and perhaps the biggest change was in the number of policies that could now be classed as explicit treatment of the key issues themes. This explicit

commitment in policy terms was particularly noticeable in the case of local authorities from the lower reaches of the Logan River that had experienced significant urban development pressures during the 1990s. This review also clearly illustrated the change in focus from the predominantly physical infrastructural aspects of the early Strategic Plans towards the broader range of environmental and socially related issues addressed in the latest plans. This was particularly evident in the explicit attention that all local authorities in the catchment gave to significant environmental management issues such as water quality. This situation was consistent with the changes occurring throughout local government in the region generally. As reported by Margerum and Holland (2000: iv/v) in their review of selected SEQ local authorities, “the study revealed that the breadth and depth (*of*) almost all local government plans have improved in terms of their attention to environmental issues (*however*) the plans are more varied in producing clear and detailed policies to address these objectives”.

In these circumstances where there is a unanimous recognition for policy attention to key environmental issues, there is probably a strong case for a composite catchment wide policy on the same theme. By 1999, there was now much greater policy coverage across a broader range of key management issues. However, it was most disappointing to note that again none of the Strategic Plans incorporated any catchment wide policies. Again, these results provided support for a recommendation to develop composite catchment wide policies through a cooperative mechanism provided by the LARMCC, which, if endorsed by the individual councils, could then be incorporated directly into their individual statutory planning schemes.

8.4.5 Consolidate the Future Direction

By the concluding stages of this phase a number of important elements had been achieved that allowed for the consolidation of future directions for the cooperative initiative in terms of reaching consensus and an agreement on common goals, and the identification of cooperative planning and management actions. The principal elements that had been established at this stage included:

1. *Full local government participation*: BSC formally joined the partnership of the LARMCC in November 1994. All principal local authorities in the catchment were now fully involved in the cooperative venture;
2. *Focus on the total catchment*: the resolution to incorporate the Albert River catchment now provided a complete natural ecosystem for application of the cooperative planning endeavours (see Figure 7.1). The implications of embracing the Albert River catchment in the activities of the LRMCCC had the following advantages:

- the Logan-Albert catchment would now embrace the standard catchment recognised and used by State government agencies;
 - it would coincide with the catchment on which most data was collected;
 - the catchment would provide a closer spatial fit and relationship with the political and administrative area of interest that was demarcated by SouthROC.
3. *Achieving a cooperative agreement*: originally proposed and debated in LRMCC meetings during 1992, it did not eventuate at that time due to:
- concerns that BSC (an upper catchment local authority area) was not involved;
 - uncertainty over outcomes of the commencing SEQ2001 regional planning process and the possibility of overlap;
 - lack of financial resources from councils;
 - uncertainty of alternative funding sources (eg State's ICM program);
 - lack of conviction in regard for a cooperative approach that extended to the point of providing direction and guidance to individual town planning schemes; and
 - members seeking a minimalist approach.

In time, and after much preparatory effort during this Consolidation Phase, the LARMCC did resolve to develop a catchment management strategy and to recommend same to their respective councils with appropriate funding (LARMCC Minutes, 23rd Aug 96). However it would take the form of a series of coordinated strategic policies which when developed and agreed to by all council members of the LARMCC would then be integrated into the Strategic Plans of individual local authorities. Reaching this point in the negotiations for greater cooperative effort in planning required not only a lot of resources upfront but continual reassurances that the outcomes from cooperative activities would not be a threat to the existing responsibilities and positions of local government. To this end, the following statement sourced from the "*Background Brief*" on the Logan-Albert initiative is indicative of this effort: "The resultant study and procedures are not intended to usurp the existing responsibilities that local authorities have in land use and environmental planning and management nor will they replace statutory planning processes and procedures that are currently in place. Instead the outcomes of the proposed study will be complimentary to the existing systems and they will provide a means to coordinate between local authorities on matters of regional and catchment interest and focus. It will also provide a means to facilitate catchment wide decision making between local authorities, government agencies and non-government organisations (NGOs)." (Low Choy, 1999).

In time, an agreed long-term set of study objectives for the ongoing development of a Management Strategy for the Logan and Albert Rivers catchment was developed and subsequently endorsed by the individual member councils of the LARMCC. This required the Facilitator to work collaboratively with the planners of individual local authorities as well as with the LARMCC. These agreed study objectives were:

- (i) to investigate the roles of the Logan and Albert Rivers and their major tributaries in the land use system of the catchment;
- (ii) to identify and define the range of existing and potential demands placed on the rivers and their immediate environs;
- (iii) to investigate appropriate management measures that will ensure that uses and development conform with appropriate aesthetic and environmental standards and that they do not reduce existing and future use opportunities;
- (iv) to identify natural, cultural and heritage elements of regional and national significance and to investigate measures for their protection and/or enhancement;
- (v) to investigate measures that maintain and where possible, enhance, the Logan and Albert Rivers as a water, agricultural, fishery, conservation, recreational, tourist, transport, urban and extractive material resource;
- (vi) to investigate measures that protect the water quality of the Logan and Albert Rivers through the control of land and other uses and practices detrimental to water quality;
- (vii) to investigate measures that coordinate the activities of state and local government agencies, land holders and concerned individuals, and which ensure that development proposals in the Logan and Albert Valleys are able to be assessed comprehensively and cooperatively by the relevant control authorities; and
- (viii) to investigate education programs for the general public on the value of the natural features of the Logan and Albert Rivers, the ecological and environmental issues and the conservation, wise use and sustainable development of all resources of the Logan and Albert Valleys (Low Choy, 1999).

Figure 8.11 illustrates the methodology that was to be utilised.

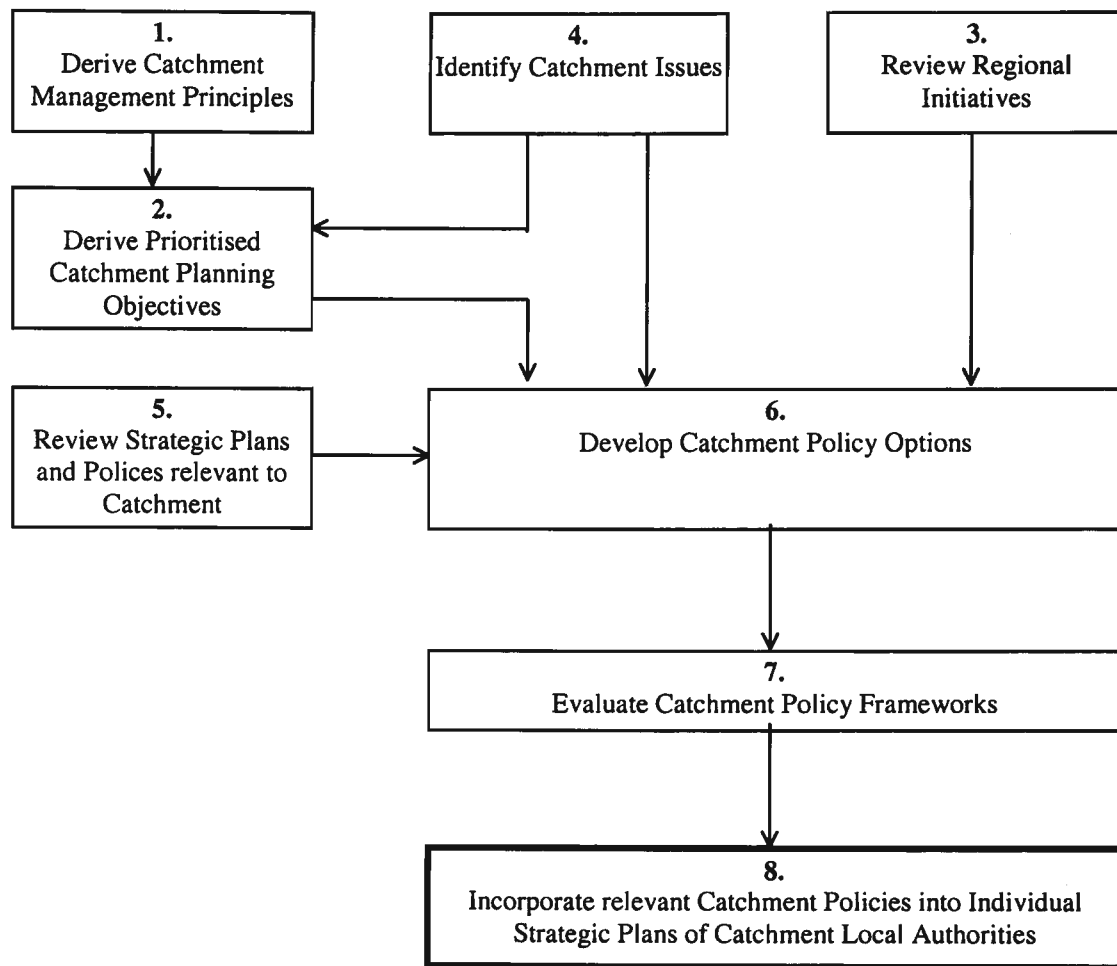


Figure 8.11: Methodology for Incorporating Catchment Management Policies into Strategic Plans of Individual Local Authorities

As indicated by Figure 8.11, most of the steps towards this cooperative planning venture had already been taken, including:

Step 1 - the WCM principles had been adopted by the LARMCC and their member councils at the end of 1993 leading into the Consolidation Phase (see Appendix 8.2);

Step 2 these objectives had been originally debated during the 1992 meetings of the LRMCC and had been reconfirmed at their Aug 1996 meeting (LARMCC Minutes, 23rd Aug 96);

Step 3 - this was a new task that at the time included a growing number of regional initiatives which are summarised by the regional details for SEQ in Figure 7.2 and Table 7.2;

Task 4 these key issues had been identified by the Delphi Study and the Community River Search Workshop;

Step 5 this task was used to justify the need for this cooperative approach.

In theory, the next phase should then have commenced with a focus on the development and evaluation of policy options for the issues of management concern in the catchment - ie the

planning business end of the exercise. However, for reasons discussed below (see Section 8.5.1), it became necessary to repeat some of these earlier steps at the commencement of the Planning 'Business' Phase.

8.4.6 Summary

The Consolidation Phase did as its title suggest. It provided the time and opportunity necessary to bring together the essential ingredients for the business end of the cooperative planning venture that was to be attempted. This included:

- the fullest involvement and commitment from the principal stakeholders (ie the local governments in the catchment). This was particularly important given that the initiative was an exercise in cooperative planning;
- the widest possible degree of representation from the catchment community;
- direct engagement with the catchment community;
- formal recognition for the initiative within the broader planning and management context of the region;
- a specific and agreed way ahead in the form of a methodology for a cooperative planning study; and
- completion of some fundamental base line surveys and studies that could serve as the common and agreed base from which to undertake the cooperative planning work.

It is also worth noting that from the end of the Consolidation Phase, and extending into the Planning 'Business' Phase, the elected member representation on the LARMCC had change significantly from the initial representatives in terms of their role and status within their respective councils. Membership of the LARMCC during these latter phases now included a Deputy Mayor, and two Chairpersons of council committees that dealt with town planning, development and environmental management matters. Mayors from the host council for the individual LARMCC meetings were also frequently in attendance at those meetings held in their chambers.

8.5 PLANNING 'BUSINESS' PHASE

This phase follows the standard sequence of the CPM but differs in its contents from Selin and Chavez's (1995) Structuring Phase and the Implementation Phase of the CPM. It differs from the latter in the sense that this case study was essentially a cooperative planning undertaking that required and distinguished a distinct 'plan making' phase from a 'plan implementation' phase. Other models do not provide sufficient weight to, nor acknowledge

the group of tasks included here as a discrete phase of the business of cooperative plan making. The tasks in this phase then became the business end of the cooperative arrangements.

This cooperative planning phase involves the conformation of agreed planning goals and objectives through to the evaluation of derived options and the achievement of consensus on implementation actions.

CONTEXT for PLANNING 'BUSINESS' PHASE

This box briefly describes external events that had an influence on events and activities within the Logan-Albert catchment during this phase (refer also to Figure 7.2 and Table 7.2).

Another round of local government elections coincided with the beginning of this phase. Further restructuring of the state bureaucracy followed as well in local government, especially after the next change in State government that occurred half way through this phase.

The beginning of this phase witnessed some major changes at the state level that had important influences to the local level, especially in the statutory planning area. The *IPA 1997* was brought into effect in April 1998 and a number of major regional planning and management activities matured, included updates of the SEQ2001 RFGM, and the SEQRWQMS.

During this phase, further studies of the Councils' property data revealed important characteristics of the immediate riverside stakeholders that were of particular interest to the elected members of the LARMCC. Mention has previously been made of attempts to engage this group (see Section 8.4.3b). In summary, the study revealed that there were some 2,217 properties along the Logan-Albert Rivers (60% along the Logan River); the majority of properties were below 5 ha in area and nearly half of all properties were in BDSC; over 90% of properties are freehold tenure and only 55% are designated for rural use; the larger size properties and those designated for rural use are in the upper catchment in BSC and BDSC; the majority of Industrial and Residential A properties are in GCCC and LCC; approximately 80% of landowners reside in the catchment; absentee ownership appears to be minimal (< 8%), (Low Choy & Kirby, 1999).

As previously noted, the August 1996 meeting of the LARMCC resolved to recommend to their member councils that a coordinated management strategy for the Logan-Albert Rivers catchment be prepared (LARMCC Minutes, 23rd Aug 96). In essence, the steps that were undertaken during this phase more closely resemble the steps of the plan making phase of the traditional planning process. However it now took on a slightly different form from the previous attempts at cooperative planning. It now had the added dimension of a *vision-based* approach that has previously been discussed in Section 8.3.6. Arguing a case for the *vision-based* approach, the Greater Toronto Area (GTA) Task Force noted the following benefits:

- it is an approach more likely to lead to major change and breakthrough solutions rather than incremental improvements;
- it is designed to produce integrated solutions rather than piecemeal results;
- it allows for managed well-paced change rather than ad hoc reactive solutions; and

- it offers opportunities to promote public discussion and involvement (GTA Task Force, 1996: 18).¹⁴

Throughout the reworked study objectives that had now been agreed to by the LARMCC (see Section 8.4.2 and Figure 8.11), there were emerging indications that a longer term view was now acceptable. For example, the term "strategy" was now clearly an acceptable vocabulary in local government circles. The formal development, consensus for, and articulation of such a long term vision for the catchment had been the missing element in the cooperative process to this point.

Whilst many preliminary planning undertakings had been completed, it was necessary to reconfirm a number of these components in order to update those planning aspects and to inculcate a new group of elected members of the LARMCC into the cooperative venture. As a result of the March 1997 local government elections, three of the five pre-March 1997 councillors were now replaced.

It was also necessary to put into effect a procedure that formalised the review and guidance input into the planning process. This would ensure that the principal stakeholders (ie the individual councils) retained confidence in the process and that other stakeholders (through the LARCCC) had input into the process. The institutional arrangement for the provision of advice and direction to the planning team is illustrated in Figure 8.12.

¹⁴ The main reasons why a visioning approach was not possible at an earlier stage in the Logan-Albert cooperative venture have previously been canvassed in Section 8.3.6.

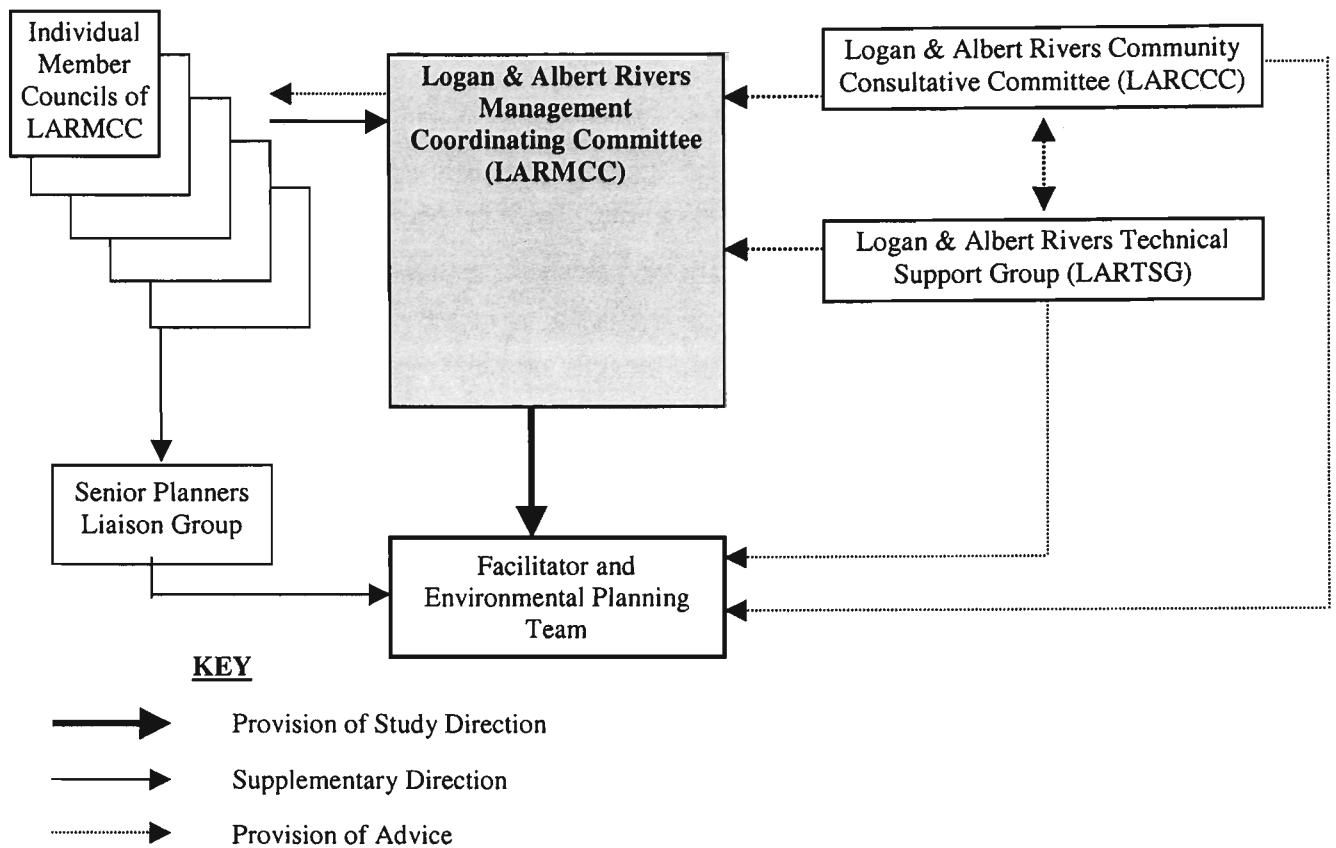


Figure 8.12: Organisational Aspects for Cooperative Planning Activities

The adopted process acknowledged the dominant position of the individual local authorities in this cooperative process as opposed to a more collaborative one where these councils would have empowered and delegated authority to the LARMCC. The councils' overwhelming preoccupation with retaining their planning autonomy and control over their individual planning processes meant that a quite complicated network with a tortuous pathway for the flow of information and communications had to be established. Only in this manner did the local authorities feel that they had control over the process and could determine its outcomes. The overall cooperative policy development process is illustrated in Figure 8.13. The previously described methodology (see Figure 8.11) for incorporating catchment management policies into the strategic plans of the individual local authorities is the foundation underpinning the process outlined in Figure 8.13.

Evident from both Figures 8.12 and 8.13 is the role that the senior planners from each council played in this process. They essentially provided guidance and direction at key points in the planning process as indicated in Figure 8.13. The dominant position played by the individual

local authorities is also illustrated by the fact that the process could not proceed from step to step until there was unanimous agreement for all the key elements at critical points along the planning process. Under the circumstances previously explained, there was no easy way to overcome this cumbersome and time consuming process. However, the composition of council representatives on the LARMCC comprising an elected official and a council planner (normally a planner of some seniority) from each local authority, meant that agreements reached within the confines of the LARMCC meetings could be relayed at two levels back to the respective councils. This was a definite advantage as it ensured that the political and technical issues could be addressed concurrently and usually expeditiously by local government standards (ie between the two-monthly meetings of the LARMCC). The other point of note, is the involvement of the catchment community, largely through workshops, selected and targeted forums and through informal and personal means. Once the LARCCC had been reconstituted, they also played an important role in this cooperative planning process, especially in their contribution to the visioning exercise and in the provision of advice and information at many points in the process which are essentially illustrated in a formal sense in Figure 8.13.

Consequently the cooperative planning process got underway but not before it had been subjected to many false starts, much procrastination, and then, only after its proposals had been subjected to detailed scrutiny and review by the individual councils. This renewed commitment to cooperative action on the part of the local authorities in particular, was heralded by a number of press releases by the elected members of the LARMCC, which typical committed to "a cooperative approach to land use planning in the catchment areas by five local authorities (*where*) the committee has put all other projects on hold to concentrate on preparing a set of umbrella policies related to sustainable land use and conservation" (*A&LN*, 6th Dec 96). However, this renewed cooperative commitment was most evident in terms of the resources, especially financial resources and involvement of senior officers from the council staff, that were now made available by the member councils of the LARMCC. The significant upsurge in finances that were now available has previously been discussed (see section 8.3.3 and Figure 8.7). Essentially this meant that the project's environmental planning team could now be properly staffed in order to get on with the Planning 'Business' Phase.

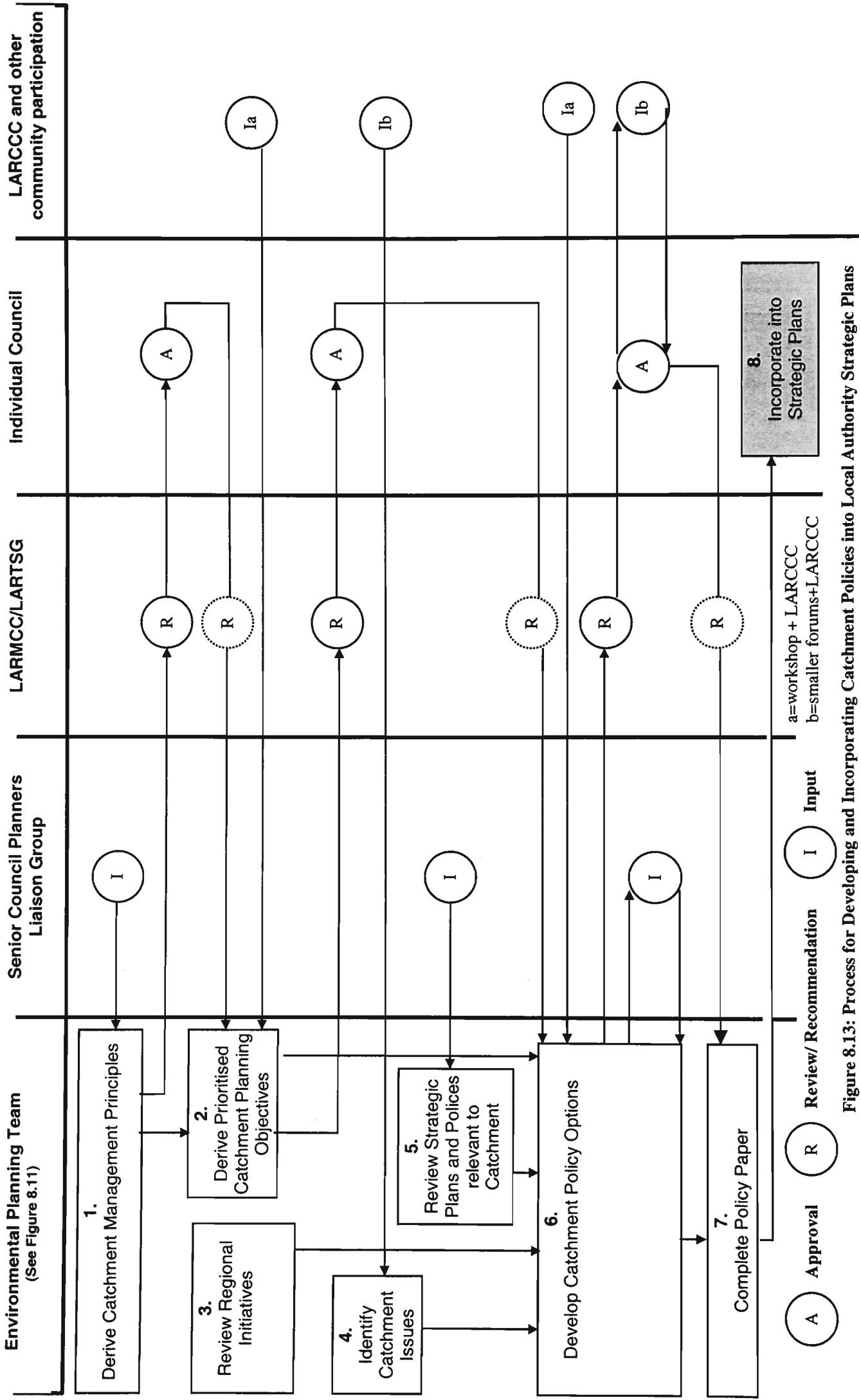
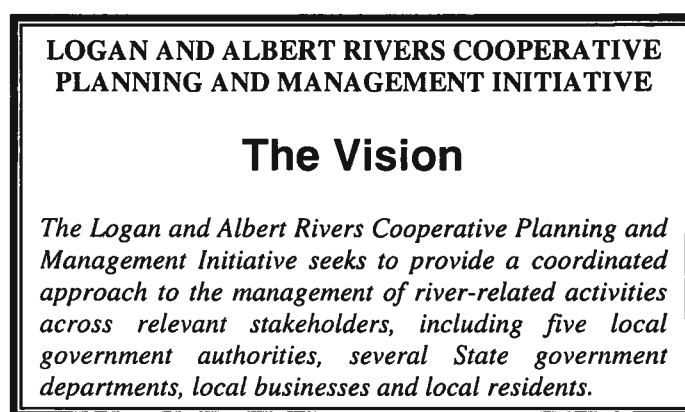


Figure 8.13: Process for Developing and Incorporating Catchment Policies into Local Authority Strategic Plans

8.5.1 Confirm Goals and Objectives

Whilst a generic set of objectives had been set for this initiative along with priorities drawn from previous cooperative exercises during earlier phases, it was necessary to confirm these goals and objectives from the outset of this phase. The precise reasons are discussed below. However in the first instance, it was necessary to derive an agreed composite Vision Statement for this initiative that had not been attempted previously. The process to achieve this took the form of a workshop for the LARMCC members in order to confirm their overarching and collective vision for the initiative. Whilst there was a genuine intent for cooperation on the part of the individual council representatives on the LARMCC, it did not overcome all of the previously discussed prejudices, perceptions and eventual policy positions of each council.



The previous Delphi Study had been completed some six years earlier. This involved a different set of resource and environmental managers (planners) some of whom were also operating in different legislative regimes and planning contexts. In order to confirm and upgrade the previous results and to inculcate any new 'actors' into the cooperative process, a fourth round to the previous Delphi Study was undertaken. Specifically, it sought to: confirm the previous results from the 1991 Delphi study; identify any changes in concerns and priorities since the earlier times; incorporate considerations relevant to the Albert River sub-catchment; and bring any new managers into the cooperative planning process.

Figure 8.14 illustrates the Delphi study process that was utilised to identify the priority concerns (key issues) of the river and catchment management agencies. Participants included all members of the LARMCC and the LARTSG that provided the 'expert' group of planners, politicians, managers and government officials. Reference has previously been made to the results of the 1991 Delphi study which are listed in Appendix 8.1(a) - see also Section 8.3.1. The results from the Fourth Round Delphi are listed in Appendix 8.1 (b). Essentially the results demonstrated very little variations between the surveys with most issues remaining in their same

priority band. Ecological and water quality issues made up half of the priority issues of Band 1 with human use issues constituting the balance. The dominant priority issues remained as: water quality; wetland conservation; maintenance of aquatic ecosystems; and sand and gravel (resource) extraction. The most noticeable variations in priority ranking included: tourist development (from Band 1 to 3); visual quality and aesthetics plus recreational use of the river/riverfront land (from Band 1 to 2). By contrast, river use capability; and agricultural runoff moved upwards (from Band 4 to 2). Urban development also progresses upwards in priority (from Band 2 to 1). These results are all indicators of a maturing management process where managers are developing a more informed understanding of the landscapes that they are responsible for.

The importance of this work and the utility of the Delphi study results to the cooperative planning exercise are summed up by Hooper et al (1999). They called for a more selected and focused approach as opposed to endeavouring to comprehensively address every aspect particularly with an ecosystems approach. They see the specifically focused approach as more likely leading to a more practical output. On the other hand, Selin and Chavez (1995) caution that single issue cooperative efforts are fragile processes susceptible to breakdown at any stage. They argue that the broadening of the purpose for the partnership will improve its chances of survival. Clearly there were no shortages of issues that challenged the Logan-Albert initiative especially the range that arose from the original and the reconfirmed Delphi studies.

The results from the Fourth round Delphi were utilised in the Strategic Plan review. They also directed the attention of the ongoing policy development to certain specific themes, namely: river dynamics and processes; riparian zone management; and landscape management.

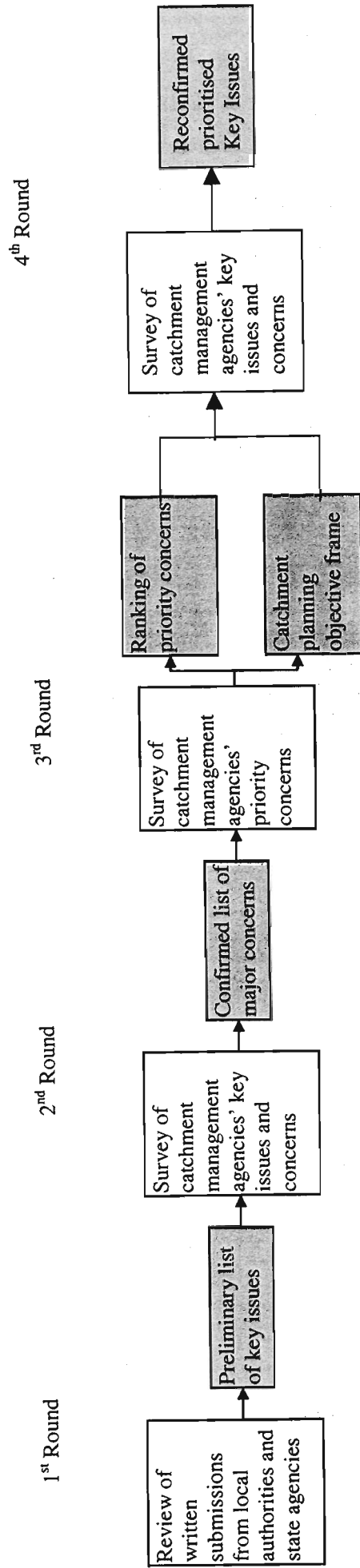


Figure 8.14: Delphi Study Process to Identify Priority Concerns of River and Catchment Management Agencies

8.5.2 Conduct Joint Fact Finding

The early period of the Planning 'Business' Phase was a very productive one. The work undertaken during 1997 and 1998 resulted in the output of fifteen main studies (including four updated reports) that addressed Steps 1 to 5 of the cooperative planning methodology outlined in Figures 8.11 and 8.13. These works formed the background for the cooperative planning exercise as well as providing essential information for the community participation process. As an added bonus, this material also became a useful resource for schools in the catchment, especially those participating in the Logan-Albert Teacher's Network. To this end, a special *Information Kit* was assembled and copies were distributed through the member councils to all of their libraries and to selected educational institutions within the catchment. The contents of this Kit included: the project's Background Paper; Fact Sheets; catchment maps; Chronological History; Historical Biography; Biography of relevant and background data for the catchment; and public participation information and registration forms.

The complete list of special reports and other data sources that were produced for this cooperative planning exercise is contained in Appendix 8.9. The other sources developed in an attempt to enhance community participation through improvement of awareness and capacity building included a series of Fact Sheets and the establishment of a web site for the project.

The web site, titled "Logan and Albert Rivers: A Community Database of Environmental Resources"¹⁵ was established by the end of 1998. It was developed to achieve the following objectives:

- to empower the community within the Logan and Albert Rivers catchment with access to basic environmental data and research findings in a form suitable for their use in various participatory planning programs;
- to collate and compile environmental data from numerous sources including federal and state government agencies, local councils, consultants, community groups, and research organisations and universities relevant to the study area;
- to establish an accessible and user friendly data management and retrieval system for use by a variety of non-government and community users ranging from school children to environmental groups, social welfare agencies and general community organisations; and
- to demonstrate to the Logan and Albert catchment's population the application of the university's core functions of research and education¹⁶ (Low Choy and Heitmann, 1998).

The web site's architecture is illustrated in Figure 8.15.

¹⁵ Site address: <http://www.ens.gu.au/larcmp>

¹⁶ Griffith University, who sponsored the Environmental Planning Team for this project, provided a financial grant for the establishment of this web site as part of its Community Service program. The site is currently inactive (see "A Changing Context" - Section 8.5.5).

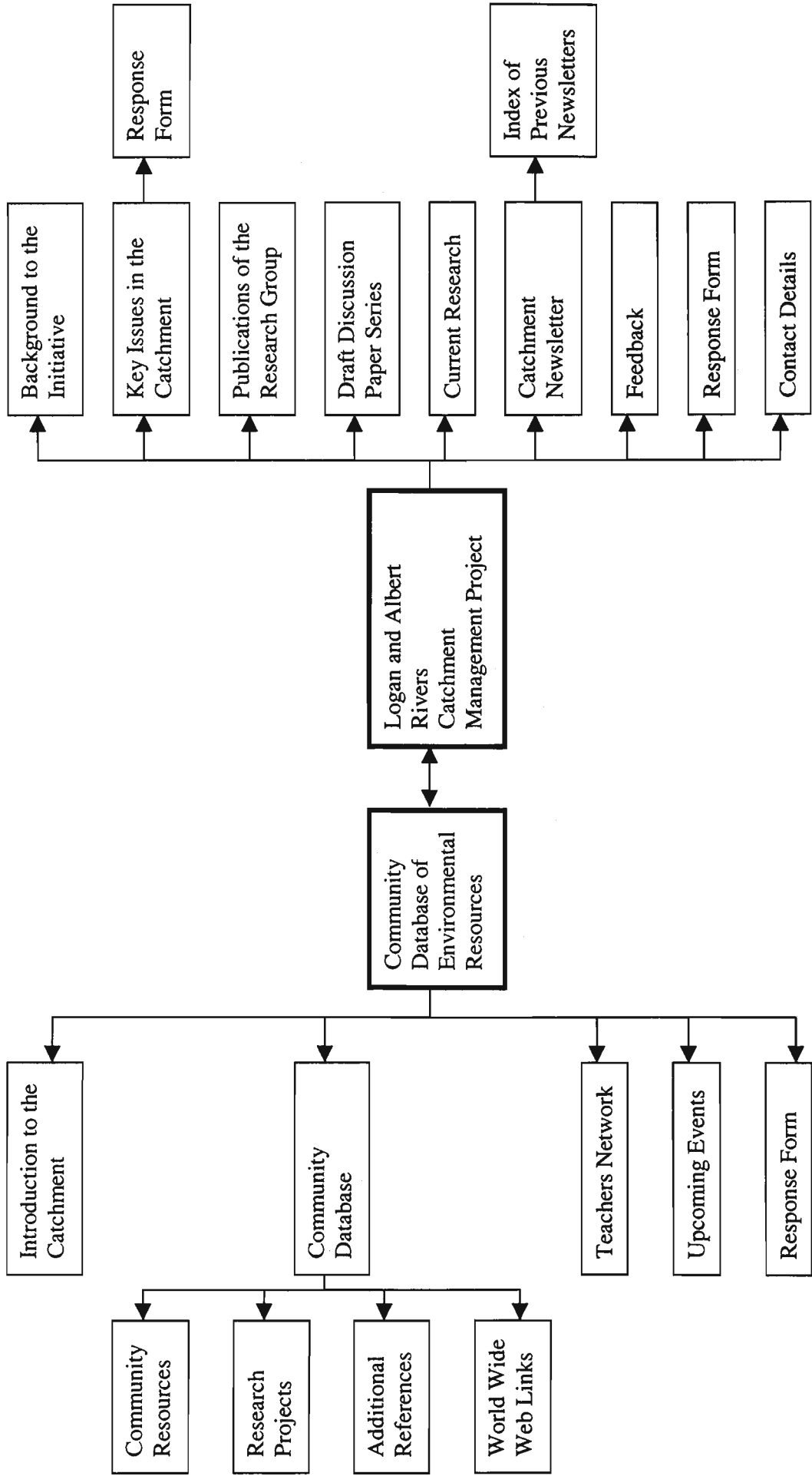


Figure 8.15: Web Site Architecture

As Figure 8.15 illustrates, the site comprised two components. The first contained the database that was divided into areas of community resources, current research projects, additional references and catchment management information on the world wide web. This component also contained a general introduction to the catchment, an overview on the Teacher's Network, an events calendar and a response form for user feedback and comment. The second component was the link to the Logan-Albert initiative. It provided community access to all background work and current research studies associated with the project. It also included elements designed to enhance community participation such as the regular newsletters, Discussion Papers, contact details, response forms and space for displaying public feedback and comment.

Although this Logan and Albert web site was active for a short duration, from the end of 1989 and during 1999, it proved popular with a number of catchment groups and individuals who had access to IT hardware through which they could access the web site. It was particularly useful in disseminating to a wider audience, the Discussion Papers that were developed at this time. Unfortunately the Logan-Albert initiative was truncated before the full potential of this initiative could be properly evaluated (see "A Changing Context", Section 8.5.5).

Further joint fact finding, including the exchange of information, occurred during the development of the draft Discussion Papers.

8.5.3 Explore and Evaluate Options

In order to canvass and evaluate management options which could then contribute to the development of catchment wide policies suitable for incorporation into the statutory town planning schemes of the individual local authorities, it was determined that a series of Discussion Papers should be prepared on core topics of interest.

Drafts of these Discussion Papers were first assembled in mid 1998 and outlines presented to the August 1998 meeting of the LARMCC. This meeting approved the continued progress of these Discussion Papers and directed that the second Community River Search Workshop be deferred in order to have the Discussion Papers available as input into the workshop process (LARMCC Minutes, 21st Aug 98). It was later agreed that these papers should be released three months prior to the workshop and that individual councils would have the responsibility for their distribution to their respective communities (LARMCC Minutes, 29th Jan 99).

The cooperative planning process that was utilised to develop the Discussion Papers and associated material followed the system outlined previously in Figures 8.11 and 8.13. This was a long drawn out process that took twelve months to finalise the Discussion Papers in an agreed form for public circulation and comment. However, a quantum leap forward was achieved in

terms of the themes and the subject matter of the individual Discussion Papers. An appreciation of their contents can be gauged from Appendix 8.10 that documents their individual Tables of Contents. What was notable was the acceptance of a number of previously taboo topics, such as the potential impacts of agricultural practices on the river system, as discussion themes in these Discussion Papers. Even more remarkable was the likely outcome that these Discussion Papers were designed to facilitate a public discussion on these issues including the canvassing of potential impacts and management options. What was even more surprising was that this collaborative agreement was reached in the full knowledge that these Discussion Papers were to be use as input into public forums such as the second Community River Search Workshop and eventually as the basis for the collective catchment policies. This process had the potential to require upstream local authorities to modify their planning policies and schemes to account for whatever corporate catchment policy might eventually be developed.

The interactive process that was used to cooperatively develop the Discussion Papers and then to canvass opinions for further policy development is outline in Figure 8.16. The formal mechanisms that were employed included the Community River Search Workshop (previously discussed in Section 8.4.4c), the web site, comment/response forms associated with the Discussion Papers and solicited public submissions.

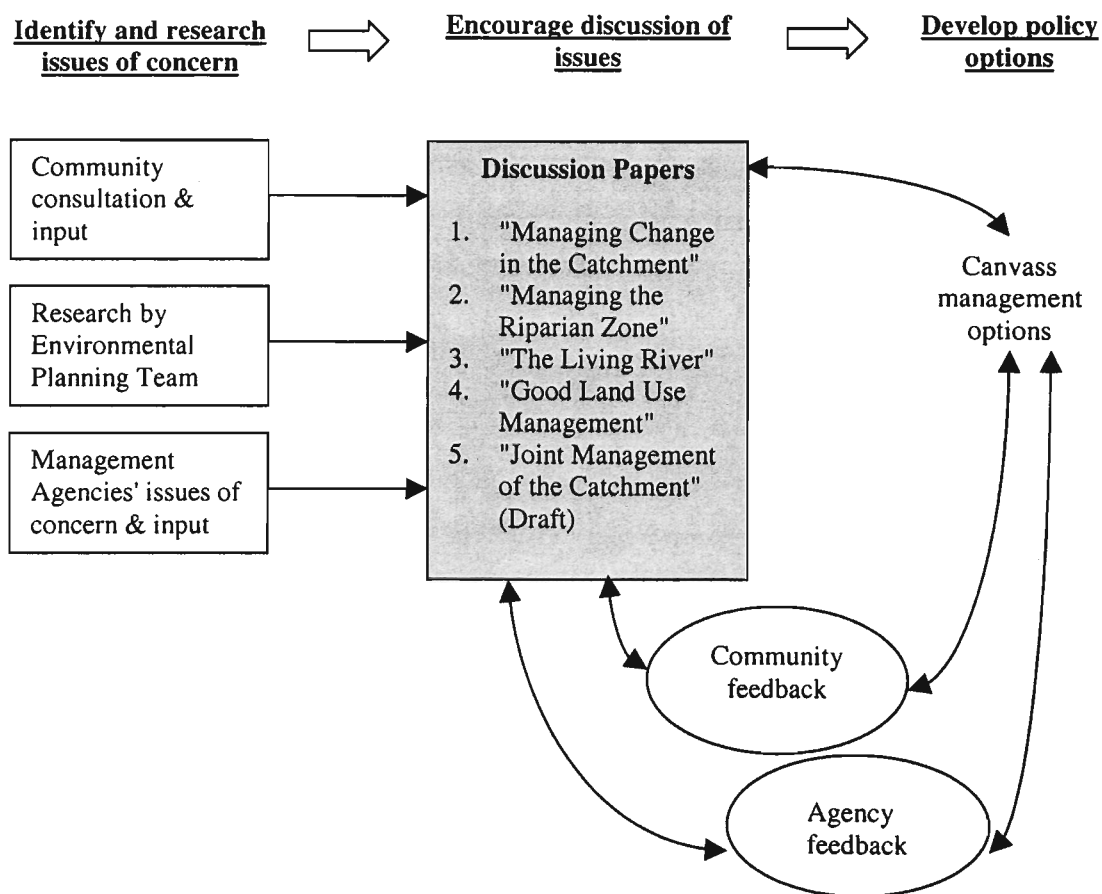


Figure 8.16: Process for Cooperative Policy Development

8.5.4 Reach Agreement on Implementation Actions

The Logan-Albert initiative and the activities sponsored by the LARMCC were not exercises designed to reach one agreement at a specific point-in-time, but a series of ongoing cooperative and collaborative ventures. With this in mind, the cooperative planning process determined that a hierarchy of catchment-wide policies would be required in a manner that could facilitate the sharing of responsibility for implementation amongst a wide variety of stakeholders (LARMCC Minutes, 7th May 99). This hierarchy of policies is illustrated in Figure 8.17.

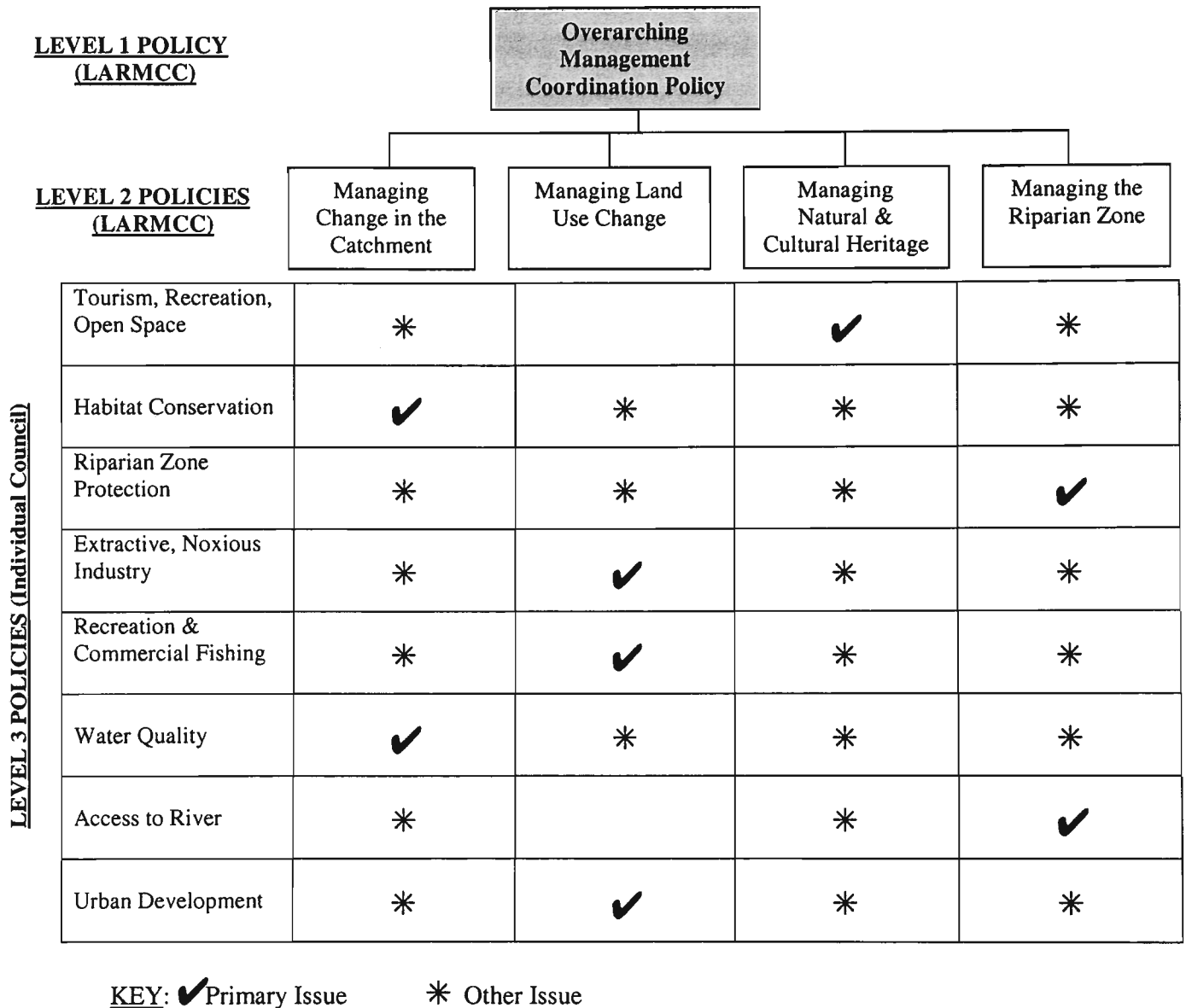


Figure 8.17: Hierarchical Policy Framework for Logan-Albert Initiative

This policy framework contained two levels of higher order policies that would be developed cooperatively within the LARMCC framework. Once these broader policies had been approved by the member councils of the LARMCC, they would then be incorporated into the individual Corporate and Strategic Plans of each council. These two levels of policies would serve as a

policy link that could bridge between the local authorities within the catchment ensuring at least they were articulating a consistent position with respect to the principal catchment issues at this strategic level. The second tier of policy coincided with the broad themes of the Discussion Papers. These Level 2 policies provided the cooperative organisation with a focus on key strategic issues within the catchment that could make a difference without getting into the detail. The third level of policy development would be the appropriate level to address the specific issues of management concern at a local authority level. By-and-large, these issues originally came from exercises such as the Delphi Study and the Community River Search Workshops and represent the general elements now associated with emergent quality of life issues. They were then refined through consultation processes and deliberations of landscape managers in cooperative forums. They are best addressed at the individual local authority level because they are relatively detail and not all are relevant or applicable to all parts of the catchment and there are noticeable variations in environmental attributes across the catchment. However, where these issues do extend beyond the boundaries of a particular council and have cross border implications, then this hierarchical policy framework and the cooperative planning system in which it is operating, does provide the mechanism to develop these joint policies in a cooperative manner. This had previously been successfully demonstrated with respect to the flood-fill policy. This hierarchical approach to policy development appealed to local authorities as it allowed them to focus on their priority issues at the third level whilst remained in control of their own planning and management agendas. They still had the option of deciding how much cooperative effort they wished to undertake.

A draft overarching management coordinating policy was formulated along with a draft set of implementation actions for presentation to the October 1999 meeting of the LARMCC. It was at this time in the history of the Logan-Albert initiative that merger options were being canvassed between the Logan-Albert cooperative planning process and the South East Queensland Regional Water Quality Management Strategy (SEQRWQMS).¹⁷

8.5.5 Summary

The activities undertaken during this discrete Planning 'Business' Phase of the L-A CPM and the outcomes achieved, clearly demonstrate the importance of providing separate recognition for the traditional plan-making aspects particularly when they are achieved in a cooperative manner.

Commencing with a cooperatively derived vision for the future catchment landscape, the other major achievements of this phase included:

¹⁷ now Moreton Bay Waterways and Catchments Partnership (MBWCP)

- an agreed process to address and highlight the immediate core topics of priority interest for the planning and management of the catchment's landscape;
- ongoing and evolving cooperative arrangements within the fullest partnership yet achieved in the 11 year history of the initiative, especially in regard to community involvement in the cooperative planning process; and
- the acknowledgement and protection of the status and autonomy of local authorities to the point where they were prepared to embrace cooperatively derived guidance and direction over their individual policies and specifically their planning schemes.

The major breakthrough for the Logan-Albert cooperative initiative came during this phase with the agreement on a methodology and a process for the collaborative development of policies for the core topics of priority interest, and then for the essence of these catchment-wide policies to cascade down into the specific policies of the individual local authorities in the catchment. This initiative satisfied the overarching requirement to derive a catchment-wide policy position for key landscape and environmental management issues, whilst allowing individual local authority partners in the cooperative venture to maintain their autonomy within the definitional framework for a cooperative arrangement seeking a collective outcome for the corporate good. A major contributing factor to these achievements was the relative stability of the working partnership that allowed the generation of mutual trust in the process. This was also assisted by a corporate maturing of the partners as evidenced by their approval of the Discussion Papers.

There is strong evidence that the outcomes from this phase were achieved through an informal adaptive management process where all participants benefited from the collective learning experience that occurred throughout the duration of the initiative. This subsequently led individual councils through their LARMCC members to adapt their individual positions to support the corporate stance. This was particularly the case in regard to increasing the degree and level of cooperation in order to derive joint policies for the key management issues within the catchment and for increased levels of public involvement in the cooperative venture.

This increased level of cooperation and collaboration, in terms of the stepped model of integrated cooperative management activity (see Figure 6.5), placed the Logan-Albert initiative now at a higher level of cooperation than at the commencement of the initiative, eleven years earlier. This outcome is discussed in detail in Section 8.7

Having achieved this level of cooperation in the plan-making phase of the cooperative planning process, the next major challenge became one of maximising cooperation amongst a broad based partnership in the plan-implementation phase.

A CHANGING CONTEXT

The Logan-Albert initiative and its associated cooperative planning exercise were cut short due to changing circumstances within the environmental management field in SEQ. These changes related to the recent political emphasis on water quality issues, firstly associated with the Brisbane River, and now extended to Moreton Bay and all of its associated catchments.

Towards the end of 1998, the South East Queensland Regional Water Quality Management Strategy (SEQRWQMS) began to examine an extension to their work in an ecological and a geographical sense, ie an extension into the non-tidal areas of the waterways and an embrace of all catchments of SEQ. These proposals had major implications for the Logan-Albert initiative that was not recognised as an official ICM project and therefore did not attract State funding. Under new arrangement (Moreton Bay Waterways and Catchment Partnership) which have subsequently emerged, the Logan-Albert initiative had a number of choices – (1) it could merge with the new initiative (and attract full funding); (2) it could stand apart but not attract any funding; or (3) it could link up in some form of joint CCC arrangement but keep a separate management group (part funded option). For the time being the first option (ie the fully funded option) has been adopted. In doing so however, the initiative has lost its original and prime focus on cooperative planning and on the coordination of local authority statutory planning activities. It has yet to develop a cooperative planning process for its new focus.

The Logan-Albert initiative is now formally part of the Moreton Bay Waterways and Catchment Partnership with an emphasis on catchment management for the purpose of addressing water quality issues. It forms part of the Logan/Nerang Water Quality Management Committee that has the services of a full-time coordinator with an annual budget in excess of \$600,000 (plus in kind contributions) from State and local governments in the region. The coordination and community participation budget alone is now of the order of \$130,000 per year.

8.6 IMPLEMENTATION & REVIEW PHASE

In view of the current status of the Logan-Albert initiative and its uncertain long-term future as a discrete cooperative planning exercise, the Implementation and Review Phase has not commenced. However, proposals for its undertaking had been worked up to varying degrees of completeness and acceptance by the LARMCC during the preceding phase. Prior to discussing the details of the various steps of this phase, a number of preliminary comments acknowledging the intent of this phase are set out below.

This future phase incorporates those elements of Selin and Chavez's (1995) 'Outcomes'. In the generic CPM, stakeholders during the implementation phase will evaluate their achievements and re-evaluate their interests in continuing with further collaboration. In the 'stepped' L-A CPM model of the case study, this has occurred at many points along the cooperative route to this point. Whilst this distinct implementation phase facilitates that review by participants in a major way, its real purpose is to address the Selman (2000) 'policy-implementation gap', previously noted in Section 6.3.4. Concerns for the lack of adequate attention to implementation aspect of cooperative and collaborative planning have also been expressed by a range of other authors, notably: Born and Sonzogni, (1995); Selin and Chavez, (1995);

Margerum and Born, (1995); Hooper, McDonald and Mitchell, (1999); and Margerum (1999c) - see Section 5.3.4c.

The L-A CPM seeks to address these previously noted implementation shortcomings and issues by incorporating:

- a flexible and an adaptable planning approach;
- an active learning by doing element;
- a monitoring and evaluation element;
- reporting and feedback mechanisms (SoER);
- access for communities to environmental data; and
- civic science as part of the participatory approach.

This is then followed by the measurement of outcomes to review, and if required, re-negotiate the original cooperative agreement/s.

POTENTIAL FUTURE CONTEXT for IMPLEMENTATION & REVIEW PHASE

If implementation of the Logan-Albert initiative cooperative policies was to occur it could be anticipated to occur in an environment that would approximate many of the anticipated qualities previously discussed in Section 1.4. In the SEQ context, this future implementation environment could be expected to be characterised by a number of themes that have already started to emerge, including:

- new public-private partnerships in planning, management and implementation;
- greater degrees of cooperative activity within the region and the State;
- new institutional arrangements for cooperative undertakings;
- a community more aware, empowered and engaged in planning and environmental management matters;
- planning and management processes and practices utilising a higher degree of technology;
- stronger direction in environmental management matters from the State government perhaps supported by a more involved Commonwealth government; and
- traditional planners operating in new and evolved roles.

This intended phase provides an opportunity to capitalise on an Adaptive Management Framework that has emerged from the cooperative activity associated with the preceding phases. The previous review of the Logan-Albert initiative has demonstrated that the process has shown signs of progressing through an adaptive environment. However, whilst a few of the preconditions for an adaptive management approach may have existed in a broad overarching sense at the end of 1999, it is doubtful that an adequate framework existed that could have readily facilitated an operational adaptive management approach for the Implementation and Review Phase. The LARMCC as an organisation did not fulfil some of preconditions for favourable institutional arrangements for adaptive management that have been previously articulated by Lessard (1998) – see Section 6.5. For example, there was no mandate for them to take action in the face of uncertainty. They were not appreciative that they were experimenting

and that they needed to be seeking solutions over a biological time scale (as opposed to their usual focus on the shorter term political time scale). Whilst they understood that preserving a pristine environment was not an option, they did not fully appreciate that human intervention could not produce the desired outcomes with any degree of certainty. There was minimal information and decision support infrastructure and there was no organisational culture with sufficient patience to assist in achieving this adaptive management framework at this time.

However, against this background, it is worth noting Johnson and Herring (1999: 361) who in a review of seven major bioregional assessment case studies in the USA noted “that adaptive management is more of an abstraction than an acceptable enterprise, and institutions still do not allow managers to risk failure”. This results mainly because experiments are applied too late and much of the natural system has already been lost.

On the other hand the whole Logan-Albert initiative to the end of the Planning ‘Business’ Phase (and the end of the case study review period), could be seen as an adaptive management activity where all corporate participants have benefited from collective learning, and subsequently have adapted their corporate positions for the common good. The evolution of their acceptance of community participation and the role of the LARCCC in the cooperative partnership are testimonial to this. Further evidence comes from their stepped, albeit cautious, incremental approach to a cooperative planning framework leading to joint policy development for the catchment which was to be exercised through their individual planning instruments but in a coordinated manner (discussed in further detail in Section 8.7). In this sense, a few of Lessard’s (1998) preconditions did exist within the Logan-Albert initiative and hence it should be possible to continue the further development of an adaptive management framework for continued cooperative planning, particularly in an Implementation and Review Phase.

8.6.1 Formalise Relationships

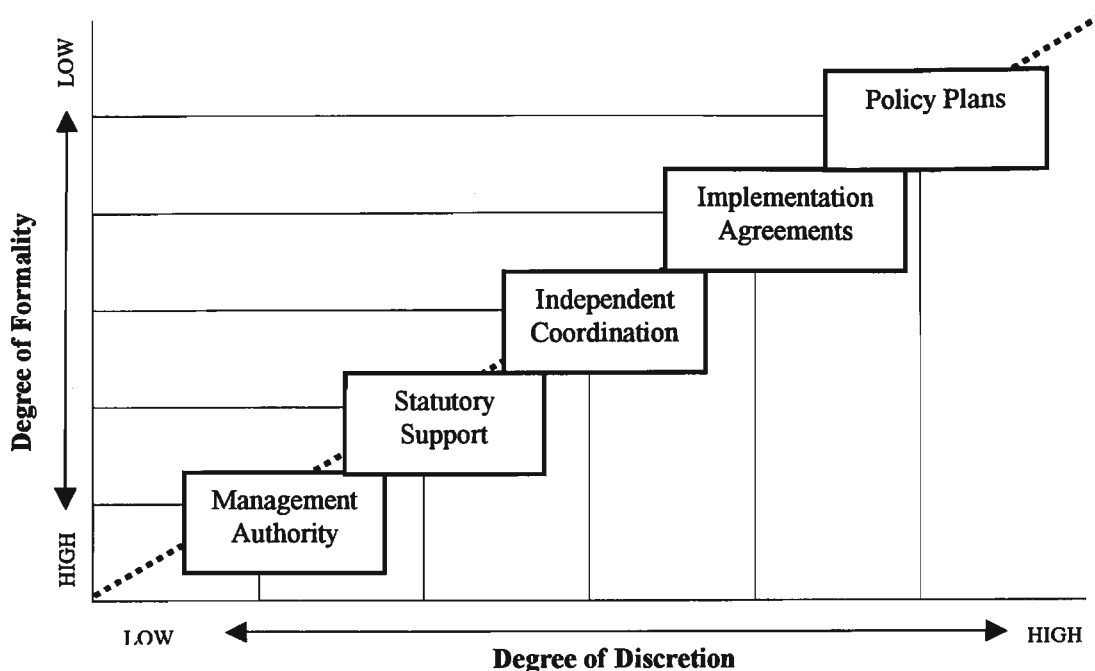
Borrini-Feyerabend (1999: 229) sums up the requirement for a formal relationship when she comments “collaborative management is a process *requiring ongoing review and improvement*, rather than the strict application of a set of established rules. Its most important result is not a management plan but a management partnership, capable of responding to varying needs in an effective way”.

In the first instance, cooperative effort needs to extend into the Implementation and Review Phase. However, the realities are that there are many precedences of alternative and informal past and current practices that can mitigate against the ready acceptance of a more formal and cooperative approach to implementation that is seeking an outcome for the collective good. For example, there is still a willing reliance on the use of alternative forums to address

implementation issues, including the use of the courts or the legislatures (Margerum, 1999c quoting Amy, 1987; Gray, 1989). Others stakeholders all too willingly rely on political alliances and 'connections' to achieve their individual outcomes and thereby effectively bypass more formal implementation arrangements. However, with a more inclusionary and transparent process, these past practices can now be effectively sidelined.

The specific challenges associated with the Implementation and Review Phase of collaborative planning have previously been discussed in detail (see Sections 5.3.4b). Other sections have dealt with emergent guidance for collaborative planning from the literature including Healey's work (1997). She contends that we will have to tackle emergent forms of collaborative planning that will have to operate as a style of governance that challenge our traditional notions of government (see section 5.3.4a). As the previous discussions have shown, there is increasing emphasis and interest in 'partnership' arrangements especially for implementation. Chapters 5 and 6 provide overwhelming support for a partnership approach, including: multi-disciplinary partnerships (Selman, 1999); 'people-based planning' partnerships (Blowers and Evans, 1997); partnerships that build "civic science" (Holling, 1995); true regional communities cooperative partnerships for landscape management (Mazmanian and Kraft, 1999); and many other including Evans and Rydin (1997); Borrinni-Feyerabend, (1999); Knight and Landres (1998); and Slocombe (2000). Partnership approaches or similar arrangements have the potential to overcome the age-old problem that has been presented by past temporary regional planning arrangements. Under these circumstances, involving an absence of a regional level of governance and a corresponding bureaucracy to support implementation initiatives, Glasson et al (1997) had noted that the plan implementation phase (communicating and control) required special attention (see Section 3.3.2a).

The options for establishing partnerships or management models for implementation vary considerable as indicated by the different models that are outlined below. Five broad classes of management models can be distinguished, based on differences in terms of their intrinsic regulatory framework and degree of centralisation of authority (ES&S, 2000). These distinctions are illustrated in Figure 8.18 and summarised in Table 8.6.



(Source: BRMG, 1998)

Figure 8.18: Alternative Management Models for Implementation

It is worth noting that there are other non-structural implementation options that could be considered including the appointment of a lead agency from the range of existing organisations who would then lead a coordinated approach, or the assignment of the responsibilities to an existing agency/ies. However, neither of these alternatives are partnership models and therefore they would not result in the outcomes sought from a collaborative approach. The different and distinguishing characteristics of the five collaborative management models for implementation identified in Figure 8.18 are tabulated below.

Table 8.6: Classes of Implementation Management Models

Class	Description	Method of Implementation
1	Policy Plan	through a stand-alone policy plan
2	Implementation Agreement	through a policy plan plus implementation agreement (eg MOU)
3	Independent Coordination	through a policy plan plus implementation agreement (MOU) and an independent coordinating entity
4	Statutory Support	through a policy plan plus implementation agreement (MOU) and an statutory coordinating agency to take over some of the key management functions (possibly by delegation)
5	Management Authority	through a policy plan with a new statutory authority to take over a broad range of management functions.

(Source: BRMG, 1998; ES&S, 2000)

In terms of the principal research themes of this study, Classes 1, 2 and 3, are the only models that would facilitate a cooperative approach that would ensure the desired primacy of local government that is consistent with the level that the case study experience has indicated to date. These issues have been previously canvassed in Section 3.2 and Chapter 4.0. This is not to

deny the possibility that there will be circumstances when other more formal and centralised models would be appropriate for the environmental management tasks at hand. However, this study is seeking to ascertain the workability of local government sponsored cooperative models.

The experience to date with the Logan-Albert initiative strongly suggests that at the conclusion of the Planning 'Business' Phase at the end of 1999, the LARMCC was at the Class 2 stage of an implementation management model with a MOU or some form of "Partnership" agreement not too far distant. As noted above, these issues were on the 1999 agenda.¹⁸ An arrangement including a formal mechanism such as a MOU was considered necessary in order to clarify the responsibilities and rights of the participating stakeholders (Borrinni-Feyerabend, 1999).

8.6.2 Monitor and Evaluate

The adoption of a discrete implementation phase that can incorporate the benefits of adaptive management should be seen in the context of the cyclic (continuous) planning process that has previously been advocated. As discussed in Section 3.3.1b, this acknowledges a distinct 'plan making' phase from a 'plan implementation' phase. This approach is illustrated in Figure 8.19 and is progressively discussed throughout the remainder of this section. The Logan-Albert experience with its cooperative plan making phase has previously been discussed in Section 8.5 (see Figure 8.13).

In acknowledging a distinct plan implementation phase, the approach outlined in Figure 8.19 elaborates on the key adaptive management elements. These elements are discussed below. This approach highlights the importance of community and other stakeholder input into the process to set the 'environmental values' which are intended to guide and direct the process towards an agreed vision and set of outcomes for the future landscape of interest. Figure 8.19 also indicates the importance of a stakeholder learning process that is informed by the most up-to-date and relevant state of the environment information available. At the heart of the implementation phase are the monitoring and evaluation steps that provide the basis to complete the tasks of reviewing progress, provide the input into the reporting process and facilitate the learning process.

This (cooperative) planning approach also endeavours to address a number of the implementation shortcomings identified by Margerum, (1999c), Hooper, McDonald and Mitchell's (1999), and Healy (1997), as well as their various recommendations for improving collaborative efforts in policy implementation (see Section 5.3.4c).

¹⁸There are strong indications that the Moreton Bay Waterways and Catchment Partnership with its emphasis on water quality issues, and involving local government, is moving towards Partnership Models 4/5.

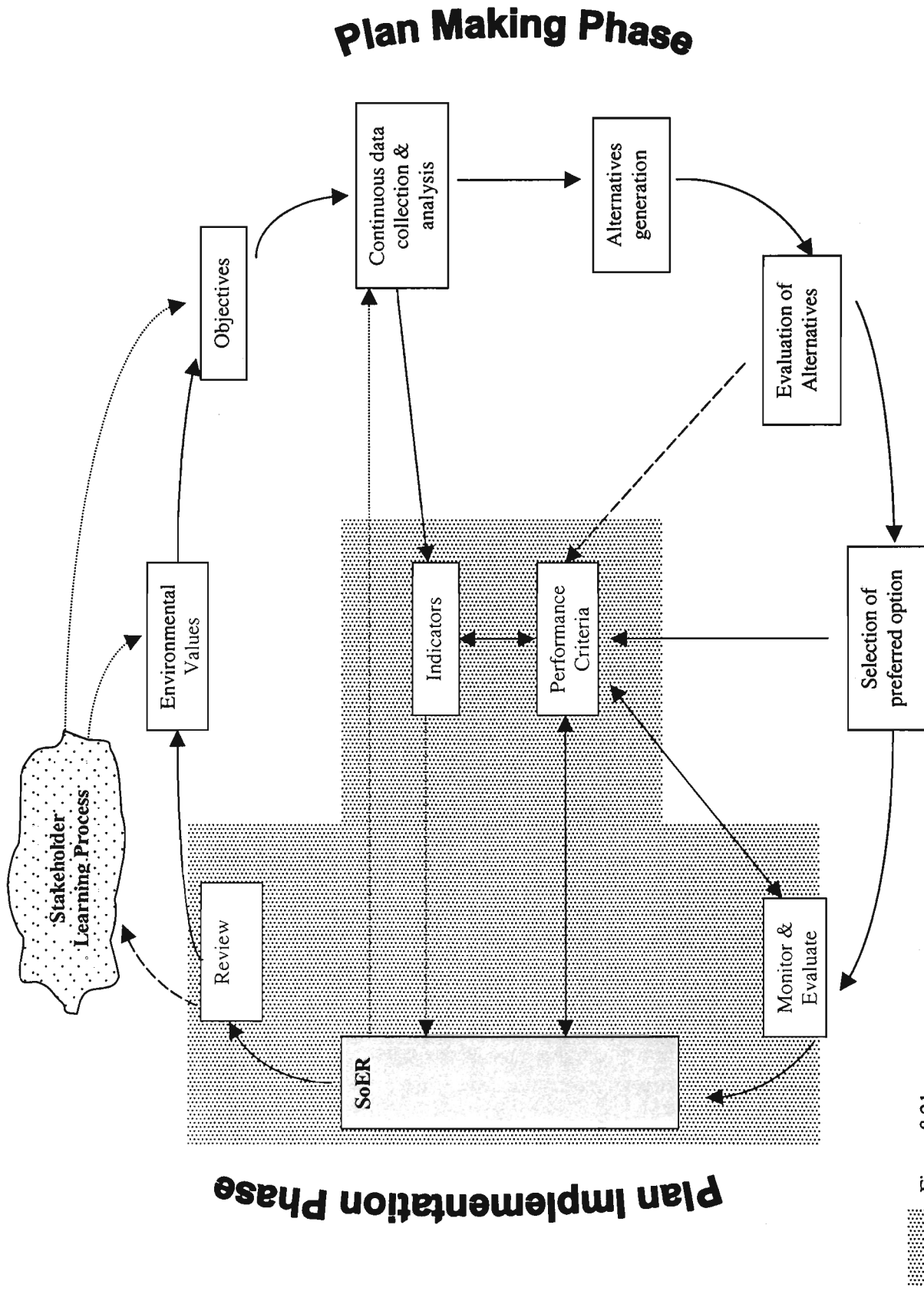


Figure 8.21

Figure 8.19: Cyclic (Continuous) Planning Process highlighting Adaptive Management Elements

Translating the generic model outlined in Figure 8.19 into the current planning practices that are being applied in Queensland to meet statutory and advisory requirements sees an attempt to derive an integrated planning model that seeks to incorporate national, state, and regional interests into the planning instruments used to manage the local planning landscape. This is the model that theoretically is currently in operation in all Queensland local authorities including the members of the Logan-Albert initiative.

The degree of statutory control that can be exercised by state and local governments has its limitations and has previously been canvassed in Section 7.2.5 (see also Figure 7.3). That discussion acknowledged that in terms of landscape management, the dominant land tenure type determined the degree of statutory control. In the case of the Logan-Albert catchment, the majority of freehold land meant that there were limitations to the degree of statutory planning controls that could be exercised by local governments. Consequently, this situation calls for maximum effort to achieve a cooperative landscape planning and management approach in order to integrate all of these influences, resource and landscape management groups, and other interested parties.

Figure 8.20 is a graphical representation of this concept for plan making and implementation that acknowledges the previously discussed nuances of the Queensland situation. It should be noted however, that Figure 8.20 represents a theoretical construct for the Implementation and Review Phase aspects. This idealised model for integrated statutory planning has the ability to acknowledge and account for state and regional interests (normally expressed as policies or strategies) in the plans and planning decisions of the local authorities (ie through their Corporate Plans and their IPA schemes and in development control decisions exercised through IDAS). This is illustrated in Figure 8.20 where State interests can be incorporated into the local authority planning process directly as State Planning Policies (SPP); indirectly through the SEQ2021 regional planning process and its RFGM; or indirectly through other regional interests and State sponsored regional plans (eg SEQ Regional Coastal Management Plan, the SEQ Regional Water Quality Management Strategy of the MBWCP, SEQ Regional Nature Conservation Strategy, the SEQ Regional Landscape Strategy)¹⁹.

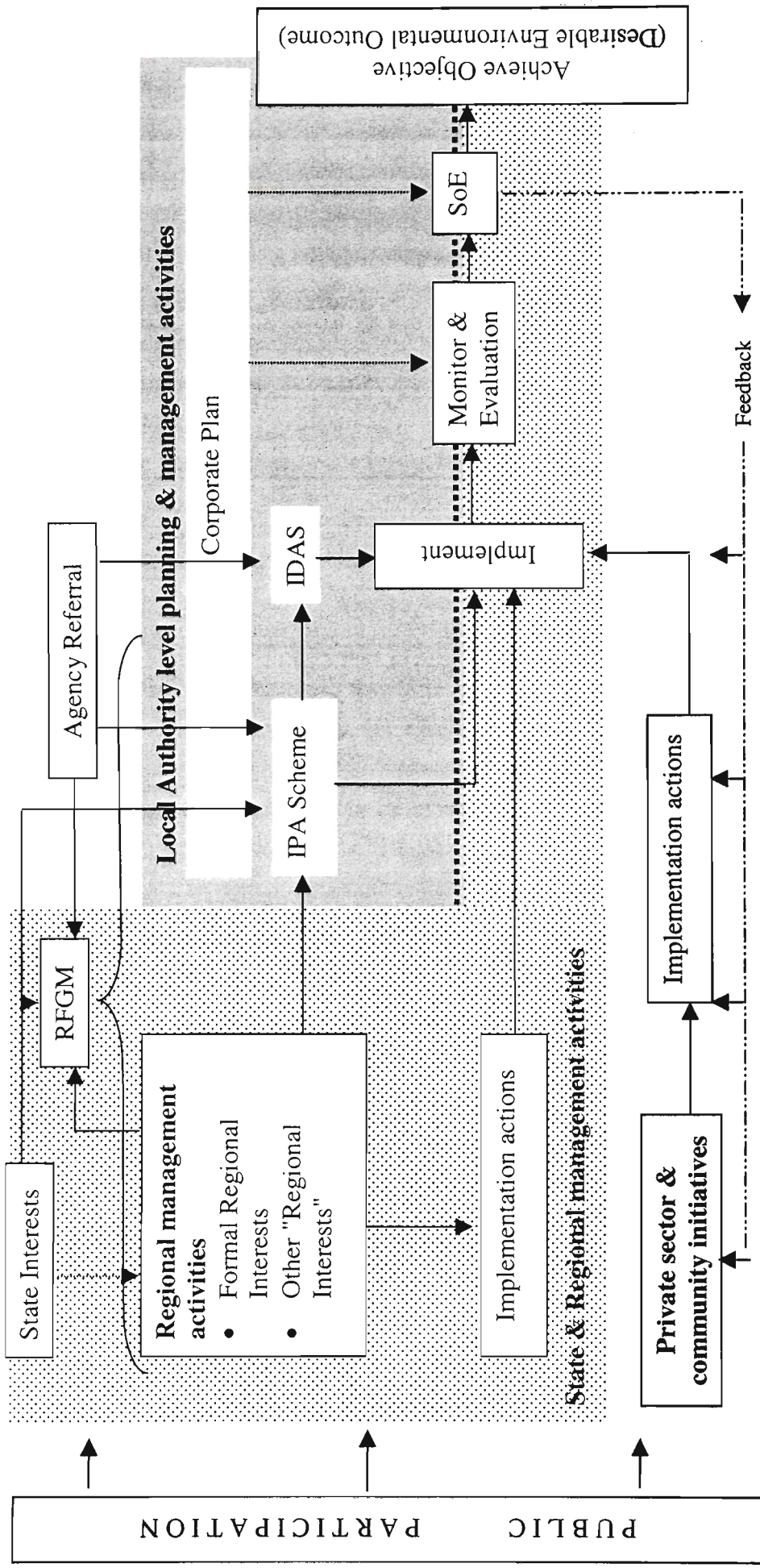
The proposed integrated planning-management model illustrated in Figure 8.20 also can facilitate the incorporation of other interests from public participation processes or from non-government stakeholder interest groups (eg industry or business groups).

¹⁹ The majority of these State sponsored regional management initiatives are currently proposals and formal outcomes have yet to be finalised.

Whilst it is acknowledged that there are serious limitations on the use of IPA schemes for the management of activities after the final development decision has been made, it is suggested that a distinct plan implementation phase is required in any performance based approach to planning and management²⁰. In view of this 'performance-based' philosophy that underlies the *IPA* legislation and approach, it is critical that follow through procedures are in place to confirm the promised 'performance'. Hence, the plan implementation phase, as part of the continuous planning cycle, is crucial to performance based approaches. It must incorporate adequate monitoring and evaluation components that can attest to the 'performance' being achieved (or not being achieved) and in this regard it will be important to specify the criteria which will be utilised for that monitoring.

Hence, Figure 8.20 illustrates a desirable situation that includes a plan implementation phase comprising these essential elements of monitoring and evaluation and a formal reporting procedure that can inform all participants involved in the cooperative planning exercise. In an adaptive management sense, it is crucial to provide this feedback mechanism in order to inform participants and to provide them with a learning opportunity that can facilitate their adjustment to their previous management decisions in the light of this new information and enhanced understanding. These reporting and learning opportunities and arrangements are illustrated in Figure 8.19 as part of the overall continuous planning process. Figure 8.20 illustrates a State of the Environment reporting approach for this feedback mechanism that is discussed in Section 8.6.3. This is entirely consistent with the conceptualisation of the cyclic (continuous) planning process with the embedded adaptive management elements that was previously outlined in Figure 8.19.

²⁰ Whilst the newly developed IPA planning schemes have yet to be tested in a pragmatic sense, current advice from the State planning agency suggests that these instruments will have a very limited to no role in the management of existing activities.



KEY Area of Cooperative Implementation Opportunity

Figure 8.20: Integrated Planning - Management Continuum

Within the existing integrated planning and management process illustrated in Figure 8.20, there is an area of convergence for certain like-activities between all of the planning and management agencies. These activities are associated with the aspects of plan implementation and their existence can be recognised in Figure 20 as an "Area of Cooperative Implementation Opportunity". Essentially this area represents an opportunity within the planning process to establish a collaborative approach to addressing the implementation issues and requirements previously discussed. This concept of a cooperative implementation phase is compatible with the requirements for the Logan-Albert initiative in the sense that it maintains the existing cooperative partnership in terms of the LARMCC, the LARTSG and the LARCCC models. The concept of a cooperative implementation model is developed in further detail in Figure 8.21. The relationship between these proposed elements of cooperative implementation and the remainder of the continuous planning process have previously been introduced and summarised in Figure 8.19.

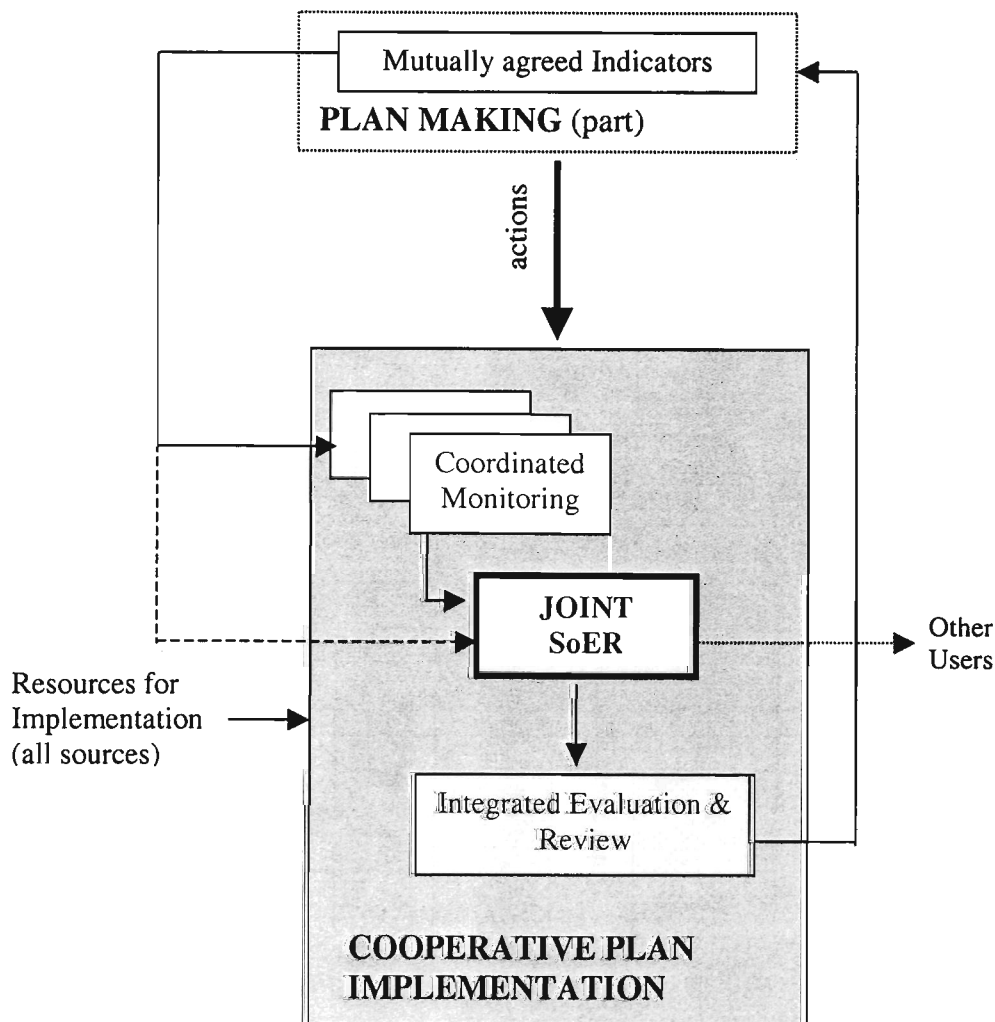


Figure 8.21: Cooperative Implementation Model

The Cooperative Implementation model is based on the establishment of a partnership between those stakeholders with a responsibility or interest in implementation including monitoring, evaluation, review and reporting. In the Logan-Albert initiative, this group represents all stakeholders currently engaged in the LARMCC, LARTSG and LARCCC forums. The process requires a cooperative approach to the identification and mutual agreement of 'indicators' of desirable landscape management (health) that would initially come from the plan making phase. This should also extend to the identification of the performance criteria associated with each indicator to be monitored. The cooperative monitoring would then be based on these agreed indicators and in all instances it should be a collaborative effort with different stakeholders taking responsibility for a share of the monitoring effort. This should include those management agencies who already exercise some form of management responsibility within the catchment, particularly if that includes an existing monitoring program related to their responsibilities (eg Local Government and State agency previously identified in Section 3.3.5c and illustrated in Figure 3.6). The process then requires a mechanism for this joint monitoring effort to be coordinated and the results drawn together through a common reporting and evaluation process. The existing arrangements with the LARMCC and its association with the Environmental Planning team and a Facilitator could provide such a mechanism. This cooperative implementation model allows for public participation in all aspects of the Implementation and Review Phase as well as facilitating additional stakeholders to join the partnership at some future date.

8.6.3 Report Back and Review

As previously noted, the proposed cooperative implementation process with the potential to involve a large number of stakeholders will require a formal reporting process and feedback mechanism in order to maintain communications and to maximise the learning opportunities that this process offers. This requirement can be met through the adoption of a formal process such as State of the Environment (SoE) reporting. Generic aspects of SoE reporting have previously been discussed (see Section 1.3.1 and 5.4.3c). It will be crucial to integrate this regional scale SoER with the emergent SoE initiatives at national and State scales and more recently those starting to appear at local government scale (eg GCCC in the case study area).

The SoER should be a key ingredient in the collaborative learning process (see Figure 8.19). In the Logan-Albert initiative it should be a collaborative effort with joint ownership by all partners. It should be a widely disseminated and available reference that should have utility to a wide range of stakeholders, including community groups, Logan and Albert Teachers Network, individual member local authorities, State agencies and educational institutions. Its frequency of publication should be determined by the LARMCC in consultation with the LARTSG and the LARCCC. It should be timed to coincide with the periodic reviews of local authority statutory

planning schemes in order that its findings can inform that process. In essence, on the basis of the overarching vision for the cooperative planning exercise and partnership agreements, the monitoring results and the SoER should be regularly reviewed with all stakeholders.

This cooperative approach to implementation provides a number of advantages including the facilitation of a cooperative process that can accommodate all potential stakeholders; the allowance for the cost and effort to be shared amongst interested stakeholders (thus removing the burden from any one particular stakeholder who may be reluctant to undertake implementation on their own due to the cost); overcoming the potential problem of an individual stakeholder being reluctant to enter into implementation alone due to uncertainty and lack of confidence; and allowing for the gains established from the cooperative planning initiative to date to be maximised and continued for the mutual benefit of all stakeholders.

8.6.4 Re-evaluate and Renegotiate

During this stage participants review their cooperative experience and re-evaluate their continued participation in further cooperative efforts. As previously noted, the cyclic nature of the cooperative process can witness the re-emergence of the antecedents at any time and for any issues thus reigniting further cooperative activity.

Although it has yet to pass through the Implementation and Review Phase, the Logan-Albert initiative is currently at this point of re-evaluation and renegotiation. In view of the thrust and objectives of the emergent Moreton Bay Waterways and Catchment Partnership, it is becoming increasingly clear that this process may not necessarily provide the means for local authorities in a catchment to collaboratively develop their individual strategic plans, in which case a cooperative planning process of some description will be required. Options include: (1) do nothing remain as part of larger (administrative) catchment grouping in the Moreton Bay Waterways and Catchment Partnership arrangement; (2) remain as a subcommittee of SouthROC and maintain exclusive focus on the statutory planning aspects of local government responsibilities; or (3) do both.

The latter option would require adjustments to the modus operandi of the former LARMCC and its associated elements. These issues would form a central part of the renegotiations for ongoing cooperative planning activity in the Logan-Albert catchment.

8.6.5 Summary

This phase requires the formalisation of the relationship along the lines of Borrini-Feyerabend's (1999) 'management partnership'. This centres on the extension of cooperative effort into the

Implementation and Review Phase through a working partnership that acknowledges the primacy of local government. On the basis of the Logan-Albert experience this arrangement could include a formal mechanism such as a MOU which would clarify the responsibilities and rights of the participating stakeholders.

This Implementation and Review Phase is a discrete component of the cyclic planning process that incorporates elements designed to achieve the benefits of an adaptive management approach. This phase focuses on monitoring and evaluation that provides the basis for input into the reporting process, facilitating the tasks of reviewing implementation progress and leading to a stakeholder learning process, thus completing the adaptive management process.

It highlights the importance of community input into the process to set the 'environmental values' to guide and direct the process towards an agreed vision and set of outcomes for the future landscape of interest. All of this needs to be informed by a stakeholder learning process.

This section has identified an opportunity to establish a collaborative approach to implementation involving all stakeholders with a responsibility or interest in the implementation aspects including monitoring, evaluation, review and reporting, (ie the "Area of Cooperative Implementation Opportunity" in Figure 8.20). This concept of a cooperative implementation phase that is based on the establishment of a partnership is compatible with the requirements for the Logan-Albert initiative that seeks to keep engaged all stakeholders previously involved in the cooperative process in the LARMCC, LARTSG and LARCCC forums.

A key element of the proposed cooperative implementation model is the SoER. As a collaborative jointly owned effort, it should be a widely disseminated and available reference to all stakeholder participants. This formal reporting component should facilitate the collaborative learning process that in turn should allow participants to review their cooperative experience and re-evaluate their continued participation in further cooperative efforts.

8.7 CONFIRMING AN EVOLVING COOPERATIVE CULTURE

8.7.1 Nature of Cooperation Achieved

A revisit to the working definition for cooperation that was earlier established for the purposes of this study provides an opportunity for a first order approximation of the nature and degree of cooperation that was achieved in the Logan-Albert initiative. That working definition (see Section 4.1.1) stated:

Cooperation is a demonstration of corporate behaviour that involves a completely voluntary agreement between two or more partners, to work together or to combine their efforts on the basis of equal authority, within a select timeframe, in pursuit of an agreed aim, and usually within a conflict-free cooperative working environment, whilst retaining autonomy and freedom to pursue their own individual goals. This may lead to a specific version of voluntary coordinated or collaborative action consistent with the attributes of cooperation.

The preceding analysis of the case study has provided consistent evidence that all of the pertinent attributes of this working definition (*highlighted* above) were present throughout the case study review period and associated with all components and phases of the L-A CPM.

The analysis and discussion of this chapter confirms Gray's (1989) contention that in every collaborative undertaking there will a repetition of common elements which will conform to a general sequence and that this series of elements can be expressed in three phases of collaborative activity (see Section 4.1.4). Consequently, this evidence also provides conformation for Margerum's generic CPM that was derived from the earlier work of Gray and others (see Section 5.3.4b and Table 5.4).

However, as previously discussed, the cooperative activities of the case study differed in a number of noticeable ways from the generic CPMs phases and their elements (see Section 7.3). This led to the development of the modified L-A CPM that acknowledged six phases of cooperative activity and recognised the differences in terms of the sequence of occurrence of the cooperative activities, in their groupings within the phases, and their relative prominence within the overall collaboration model.

The case study experience confirms the L-A CPM as described in Section 7.3 and Figure 7.3. Not only were all of the elements of cooperation present but they also occurred within the generic sequences of the phases associated with the generic CPM in general, and with the L-A CPM specifically. The experience of the case study also confirmed the generic behavioural classification of interagency relationships (see Figure 4.1) and in particular, the nature of movement back and forth between cooperative and collaborative activity.

8.7.2 An Evolving Adaptive Culture

Herring believes that although our current knowledge is tentative and imperfect, and our efforts to overcome these deficiencies fall short of an exact science, we currently stand at the crossroads where there is general consensus that we are moving in the right direction as we seek to improve our knowledge base. This direction he sees as characterised by "integrative science, ecosystem management, and collaborative decision-making" (Herring, 1999: 8). As noted in

Section 6.5, adaptive management involves a continuous process of action-based planning, monitoring, researching and adjusting with the aim of improving implementation in order to achieve the objectives (Holling, 1978; Walters, 1986; Briassoulis 1989; Gunderson et al, 1995; Lessard, 1998; Johnson et al, 1999; Brunckhorst, 2000). It was also noted that the learning process was the cornerstone to adaptive management and that it is important to ensure that implementation measures facilitate this process.

This raises the question as to whether organisations as a discrete institution can actually learn, and then benefit from that experience. Dovers' (2000) caution concerning institutional memory loss has previously been noted – see Section 6.5. On the other hand, he has also acknowledged that there are a number of larger scale organisations such as the Murray-Darling Basin initiative, which display some elements of adaptive management approaches. Holling (1995: 31), also concluded that the case studies he reviewed did suggest "that institutions and societies achieve periodic advances in understanding and learning through the same cycles of growth, production, release, and renewal that shape the spatial and temporal dynamics of ecosystems". The Logan-Albert experience does support this notion of institutions learning and adjusting their cooperative behaviour in an adaptive environment.

Schnurr argues that learning under an adaptive management regime within these institutional circumstances can be fostered by adopting decision-making guidelines, communication rules, and process steps. He also argues however that learning could also occur without specific structures if strong incentives and disincentives are in place (Schnurr, 1998). He notes that learning can be facilitated through several principles that allow interested parties to: jointly define the rules for communication and negotiation; have equal access to information; create incentives for risk taking; allow a margin for error; delegate responsibility; and adopt a willingness and ability to capture and build on unexpected results (see Section 6.5). This point is important for the Logan-Albert case particularly as the LARMCC was only a 'loose' coalition for the purposes of specific elements of cooperative action.

The review of the Logan-Albert initiative has demonstrated that the process has shown indications of progressing through an adaptive management process and that there were encouraging signs emerging at the conclusion of the Planning 'Business' Phase to suggest that a workable adaptive management approach could have been operationalised for incorporation into the Implementation and Review Phase.

On the issue of social learning, Selman (1999: 162-164) sounds a timely caution which has relevance to the direction of the Logan-Albert initiative, when he notes that:

- "non-adversarial" approaches remain largely untested in practice;

- moves towards more consensual modes of environmental planning need to be achieved without undermining the properly constituted processes of local democracy and the roles of the elected officials;
- it may lead to better problem definition but it doesn't automatically lead to better policy nor more effective solutions;
- social learning serves as an enrichment of, rather than a replacement for, traditional models.

The establishment of the University Web site was an attempt to empower the community and to aid social learning although Selman (1999) does sound a warning that the availability of specialist data may result in possible misinterpretation by a non-technical general public. Along with other community directed initiatives including workshops, Discussion Papers, forums, school teachers network activities, newsletters etc, the web site initiative was seen as part of the general capacity building undertakings for improved cooperative planning within the case study area. There was no evidence that this initiative was being misused and should not continue.

The Logan-Albert initiative could be seen as an adaptive management activity where all corporate participants have benefited from collective learning, and subsequently have adapted their corporate positions for the common good. However, as discussed below, this decision to enter into a cooperative partnership did not occur in a rational nor uniform manner.

8.7.3 The Degree of Cooperation Achieved

A major departure from the generic CPM relates to the recognition from the case study of a number of distinct levels of cooperation as opposed to the assumed uniform decision point of the generic model to embrace a collaborative undertaking. Specifically, the case study participants adopted a very cautious approach that could best be described as a series of stepped levels of increased cooperative commitment. This commenced with the joint agreement to cooperate in a forum to identify and then to discuss matters of common interest, and only later was a further agreement reached to cooperate in policy development and then finally, an agreement on a cooperative approach to the implementation of the joint policy. This stepped sequence of cooperative agreements was a noted departure from the generic CPM.

The adoption of a stepped approach to increasing degrees of cooperative activity can best be illustrated by reference to Figure 8.22 which is based on Figure 6.5: Levels of Integrated Cooperative Management Action. Figure 8.22 positions the Logan-Albert cooperative initiative at the time of its formation in 1989 and compares that position to its 1999 position in terms of its evolved level of cooperative activity. These outcomes and their implications are discussed and analysed in further detail below.

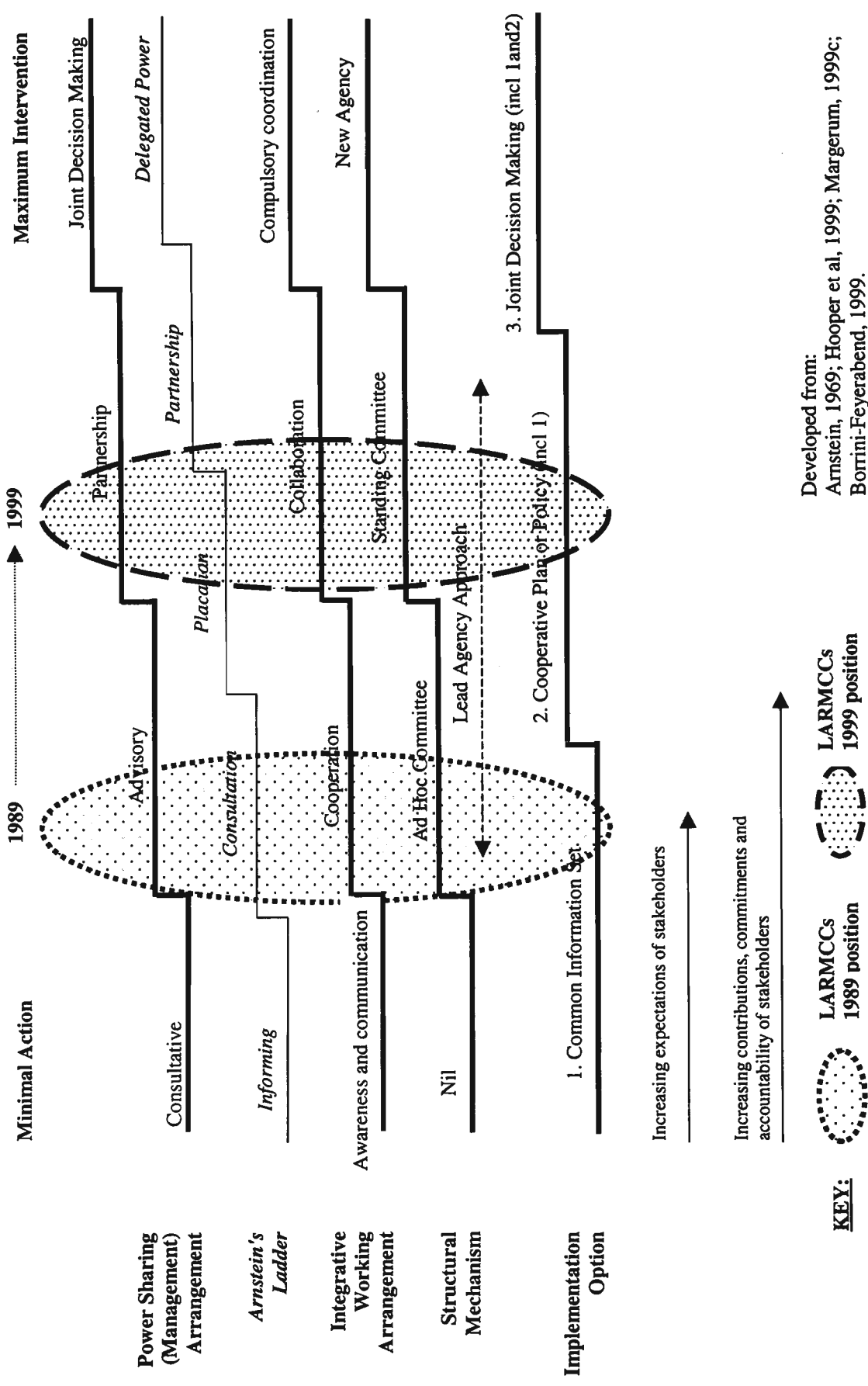


Figure 8.22: Shift in LARMCCs Levels of Integrated Cooperative Management Activity (1989 to 1999)

The Demonstration of Need Phase resulted in the partners taking their first cautious step towards cooperative management (see Section 8.1.3). Figure 8.22 illustrates the nature of the initial step taken. This included an agreement to establish a cooperative arrangement along the lines of an ad hoc committee structure (the LARMCC), where the collaborating partners self selected their membership. It would function with a cooperative agenda but in an advisory capacity to the member local authorities of the LARMCC. In terms of implementing the cooperative actions, these tasks were undertaken along the lines of Margerum's (1999c) Common Information Set (CIS) where shared information derived through the cooperative effort was influential in the decision-making process. Under this arrangement, the stakeholders shared information, provided different perspectives and analyses, and consequently developed a better understanding of the catchment landscape they were attempting to manage collectively.

This cooperative organisation was not bound by any formal agreement, statute or decree and individual members were free to disengage at any time of their choosing. The adopted ad hoc committee model was a minimalist approach to cooperative action. It was characterised by limited contributions and commitment from the individual members. They exercised no accountability to this new cooperative organisation that they had established but only to their respective local authority who they represented. Expectations for outcomes, particularly in the short term, were varied and low overall. More importantly, this approach and level of cooperative agreement would not, and could not, define an implementation strategy to address the key issues of management concern. This meant that the initial cooperative model had to evolve to a model that enabled this level of cooperative action to occur.

Thus at the conclusion of the case study period of review (1999), the Logan-Albert cooperative initiative had moved up the steps of cooperative effort to the point where it now clearly reflected a higher order of cooperative/collaborative effort than at its genesis in 1989. Figure 8.22 illustrates this stepped approach to increasing degrees of cooperative activity as well as graphically indicating the movement of the Logan-Albert initiative from its original 1989 position to its later 1999 positions along this continuum.

By the end of 1999, the Logan-Albert initiative was characterised by a number of important achievements that provide an indication of the level and degree of cooperation and collaboration that was achieved. These include:

- an emergent partnership arrangement, albeit undocumented, with the exception of minuted records of LARMCC resolutions and later confirmed by individual council determinations. At the conclusion of the Planning 'Business' Phase, the exploration of "alternative institutional arrangements for management coordination" was definitely on the LARMCCs agenda (Low Choy, 1999). It was also to be a central focus of the overarching policy paper

dealing with Management Coordinating Policy (see Figure 8.17). In fact it was a re-occurring discussion point since the early 1990s deliberations regarding the relevance of the State government's ICM program to the initiative. More recent deliberations had led the LARMCC to direct attention to the options and opportunities for alternative institutional arrangements for management coordination (LARMCC Minutes, 15th Oct 99);

- it was a formal standing committee of SouthROC that placed it firmly within local government's institutional framework for regional planning in the SEQ region. In this manner it was also fully integrated into the regional planning machinery of the SEQ2001/2021 process for this region (see Figure 8.8);
- it had collectively matured to the point where there was acceptance of the need and benefits from open public discussions on key management issues affecting the entire catchment (eg the Discussion Paper dealing with agricultural land use practices was a case-in-point);
- it had developed the elements of a cooperative policy plan awaiting implementation. This placed it firmly in Margerum's (1999c) mid range of implementation options as opposed to earlier information exchange of minimalist intent (see Table 5.5, Section 5.3.5c);
- it had evolved to a higher order of collaboration through a series of experiments with community engagements that increased member's trust and confidence in bringing the community into a fuller partnership. These very public activities included: community workshops and forums; the Logan River Week; a Teacher's network and annual School's congresses and an interactive web site;
- it had (re)established a CCC with gradually increased empowerment. It had also actively sought to ensure that representation on the LARCCC was broad based and representative of all stakeholders in the catchment community. The CCC was provided with direct representation on the membership of the LARMCC; and
- it was on the verge of moving into the cooperative implementation phase – a commitment made earlier in the Planning 'Business' Phase when the individual councils and the LARMCC had agreed to the cooperative planning process and the hierarchical framework for the development of joint policy.

The whole Logan-Albert initiative has been one of adaptive management where all corporate participants have benefited from collective learning, and subsequently adapted their individual positions to align with the corporate stance. This is evidenced by their stepped albeit cautious approach to a cooperative planning framework leading to joint policy development for the catchment which was to be exercised through their individual planning instruments but in a coordinated manner. These achievements provide demonstrated proof of the ability of an organisation to move from cooperation at the generic and initial end of the decision making spectrum, towards the "sharper" end - the commitment end.

9.0 THE LOGAN-ALBERT CATCHMENT CASE STUDY - Evaluation of the Thesis Propositions

This chapter addresses the thesis propositions in terms of the results from the previous analysis of the paradigm shifts observed in the cooperative initiatives of the Logan-Albert case study. It focuses on the three principal research themes and examines how the case study's cooperative planning endeavours moved towards the convergent paradigm shifts in the practice of landscape management that have been noted from the literature. The Chapter also considers the experience of the Logan-Albert case study in terms of the implications for the planning profession and the influences that it had on local planning and landscape management practices.

9.1 EVALUATION OF THE COOPERATIVE REGIONAL PLANNING PARADIGM

9.1.1 Evaluation of the Planning Theme

In terms of this theme of the research question, the thesis proposition questions whether the *traditional planning frameworks of local government can address regionally significant environmental issues of catchment scale.*

Implied in this question was the issue of whether the call is for the development of a new planning approach, or for the adaptation of traditional planning. Can traditional planning reinvent itself to be able to respond to the array of regional scale challenges typical of those that confronted the Logan-Albert initiative? How well understood is the traditional planning approach and is it too restrictive philosophically, too narrowly focused, to achieve a higher degree of acceptance by those responsible for environmental management and policy development at local government level?

The definitional and operational planning related questions that were advanced with the original research question in Section 1.5.2 and Figure 1.4 have been addressed in Section 3.3 which defined and examined the challenges and prospects for traditional planning. These aspects have been extended in Chapter 5 where emergent planning paradigms and their relationship to traditional planning were discussed in some detail. The planning dimensions of the converging paradigms for landscape management were further addressed in Chapter 6. In the review of the Logan-Albert case study (Chapter 8), particular attention was given to examining the degree of uptake of these emergent planning paradigms by local government, especially those that could extend traditional approaches in order to address the recent regional scale environmental management challenges.

This section seeks to ascertain how the planning process worked within the confines of the cooperative exercise. This requires an appreciation of the Logan-Albert's planning process in terms of the emergent paradigm shifts that are associated with contemporary planning as previously discussed in Chapters 5 and 6, notably Sections 5.3 and 6.3. The principal interest lies in ascertaining how far the planning process for the Logan-Albert initiative has moved in the direction of contemporary and emergent approaches to environmental planning.

a. Addressing the macro issues

The global macro issues relevant to evolving planning endeavours have been discussed in previous chapters, particularly Sections 1.4, 3.3, 5.1 and 5.2. Of particular note are the planning implications that may be associated with Ellyard's (1998) cooperative paradigm of "Planetism" (or the Spaceship culture) which he sees as best describing the contemporary global developments in the context of the Post-Modernism era (see Section 1.4.1). In terms of the four broad based philosophical planning approaches articulated by Freidmann (see Section 3.3.1a), the Logan-Albert initiative sits comfortably well within Freidmann's first tradition of "policy analysis". This approach is basically orientated towards maintaining the status quo and where planners provide expert advice to governments. It has also been focused towards his second tradition of 'social reform' in its various attempts to address contemporary problems. However there were also some emerging hints that it was tending towards Freidmann's third tradition of "social learning". This observation is made despite Freidmann's acknowledgment that this approach is still largely restrained by its rational bias from advocating the radical transformation of society that would move it towards his fourth tradition of 'social mobilisation'. The main indicators of the emergent third tradition come from the Logan-Albert initiative's attempts at community engagement and the collective learning that has occurred to date.

It was previously concluded that a strategic appreciation of where the Logan-Albert initiative sat in terms of evolving forms of environmental planning can best be gauged from a evaluation against Mazmanian and Kraft's (1999) conceptual three epoch framework (see Section 6.1). In terms of this framework, the Logan-Albert case study displayed attributes of all three of Mazmanian and Kraft's three epochs. However, during the review period, they essentially remain in the era of the first two epochs. In other words it was firmly embedded into a traditional 'command and control' approach but former barriers in relation to guarded and unilateral developments of Strategic Plans in isolation were beginning to break down. This has been assisted by the cooperative regional planning exercise (SEQ2001) that got underway during the case study review period. This situation in reality is a direct outcome of the Queensland statutory planning system in which all local authorities had to exercise their statutory planning responsibilities without any real degree of flexibility. This was also despite the intentions and desires of the Logan-Albert initiative for an enhanced planning process that

would be more appropriate to the strategic and regional planning requirements of the catchment group of local authorities. Hence the cooperative planning approach of the Logan-Albert initiative had to operate within this rigid, top down, State government directed local government planning framework.

Those indicators of Mazmanian and Kraft's third epoch (see Section 6.1) that can be recognised in relation to the Logan-Albert initiative are summarised in the following table.

The conclusions that can be drawn from the assessments documented in Table 9.1 indicate that whilst a number of individual indicators have yet to be accepted and incorporated into the planning process, an encouraging number had been acknowledged and there were emerging signs that they were being developed and applied in a manner consistent with the thrust of evolving forms of environmental planning as previously identified. It is also encouraging to note that key implementation aspects have been acknowledged and initiatives commenced that were aimed at ensuring that the planning process can be fulfilled for the strategic policies. In a collective sense, the indicators overall suggest that the Logan-Albert initiative was attempting to address issues of sustainability and quality of life and in this regard it is seen to be heading in a direction that is consistent with the previously noted recent paradigm shifts in environmental planning.

A similar conclusion emerges from a second assessment of Logan-Albert initiative and its embrace of elements of some emergent paradigm shifts in the philosophical and technical base of the evolving field of environmental planning that have previously been acknowledged in Section 5.3.5. The attributes and emergent trends that indicated this move towards the sustainability transition were tabulated in Table 5.6. These indicators form the basis for the assessment of the Logan-Albert initiative in terms of its shift towards the emergent field of environmental planning within the sustainable development debate - see Table 9.2.

Table 9.1: Comparison of Logan-Albert Initiative in relation to Third Epoch of Environmental Planning

Third Epoch Indicators	Logan-Albert Experience
<p><u>Policy objectives:</u></p> <ul style="list-style-type: none"> • Harmonise human and natural systems on a sustainable basis • Balance long-term societal and natural system needs through system design and management • Focus on resource conservation • Halt biodiversity diminution • Embrace eco-centric ethic 	<ul style="list-style-type: none"> • Discussed at all forums but still lacks definition for pragmatic application • Discussed at all community forums but not transferred into policy development at this stage • Acknowledged but objectives not clear • Inferred but not 'up-front' - partial references • Not yet addressed in policy forums
<p><u>Policy approach:</u></p> <ul style="list-style-type: none"> • Comprehensive future visioning • Regional planning based on sustainable guidelines • Experiments with new approaches 	<ul style="list-style-type: none"> • Just commencing (needs enhanced links between stakeholders) • Regional level of catchment with embedded WCM guidelines- see Appendix 8.2 • Has experimented with cooperative coalition of local authorities
<p><u>Information needs:</u></p> <ul style="list-style-type: none"> • Sustainability criteria and indicators • Eco-human support system thresholds • Ecological footprint analysis 	<ul style="list-style-type: none"> • Needed but not known (see Section 8.6.2) • No appreciation to date • No analysis to date (lack of adequate data)
<p><u>Points of intervention:</u></p> <ul style="list-style-type: none"> • Societal needs assessment and goal prioritisation • Industry attention to product design, materials and selection • Environmental strategic planning • Individual behaviour and lifestyle choices 	<ul style="list-style-type: none"> • Attempted through River Search Workshops and LARCCC input - see Appendix 8.5 • Not attempted • A focus has been on improving strategic level environmental planning at local authority level • Not addressed as a comprehensive strategy
<p><u>Implementation philosophy:</u></p> <ul style="list-style-type: none"> • New mechanisms and institutions that balance the needs of human and natural systems • Mechanism created to enforce collective decisions • Community capacity building and consensus building 	<ul style="list-style-type: none"> • Not explored at this stage • Commenced to explore in relation to implementation issues (see Section 8.6) • Improving initiatives (web site, Info Kits, Workshops, Teacher's initiatives etc)
<p><u>Institutional context:</u></p> <ul style="list-style-type: none"> • Public-private partnerships • Local-regional collaborations 	<ul style="list-style-type: none"> • Emerging but some way to go • Starting to emerge but prime focus at regional level with the LARMCC

Based on Mazmanian and Kraft (1999)

Table 9.2: Evidence from Case Study of Evolving Nature of Environmental Planning in the Sustainable Development Debate

Attribute	Emergent Trend	Albert-Logan experience
Eco-philosophy	Sustainable and adaptive management with focus on Quality-of-Life/Livability issues	Quality-of-Life/Livability issues were to the fore but local authority members and hence the Logan-Albert initiative were not in a mature state of environmental management evolution
Level of integration	Holistic integration with emphasis on reestablishing connectiveness of systems	Acknowledged but needed reinforcing and conformation with local authorities
Importance of nature	Acknowledging landscape carrying capacities and ecosystem limits with an emphasis on landscape restoration	Acknowledged but lacked data. Landscape restoration an emergent issue.
Importance of social science	Integration of social and cultural issues into planning and decision making	Integrated at strategic policy level of catchment
Planning process	Cyclic (adaptive) process including implementation phase with community ownership and involvement in implementation (including monitoring)	Implementation & Review Phase of the L-A CPM incorporated proposals for a cyclic adaptive process. Community involvement and ownership was minimal.
Critical scale of effectiveness	Regional (above local)	Operational level was the regional-catchment level
Degree of community engagement	Fullest partnerships	Limited and immature but evolving in positive direction
Role of science	Maximum use of science including civic science (citizen plus indigenous science)	Utilised the limited available science. Limited application of civic science but acknowledged and systems to incorporate were evolving
Role of experts (Planners)	Facilitators, mediators, advisers and coordinators	Developed on all fronts for planners
Role of community	Providing informed guidance to the planning process (through visioning and establishing environmental values), together with total involvement in planning (incl implementation) and decision-making processes	Limited to date but opportunities recognised and systems were evolving for greater participation. Greater involvement in decision-making some way off.
Role of government	Supportive – provision of opportunities, resources and infrastructure	Limited to absent support from State government
Level of systems control	Regulatory tiering of management responses from voluntary to regulation	Acknowledged but no formal system in place to account for full array of management requirements
Characteristic techniques	Based on responsive and adaptive management embracing cooperative solutions sourced through consensus building	Completed but only within confines of the LARMCC forum to date.

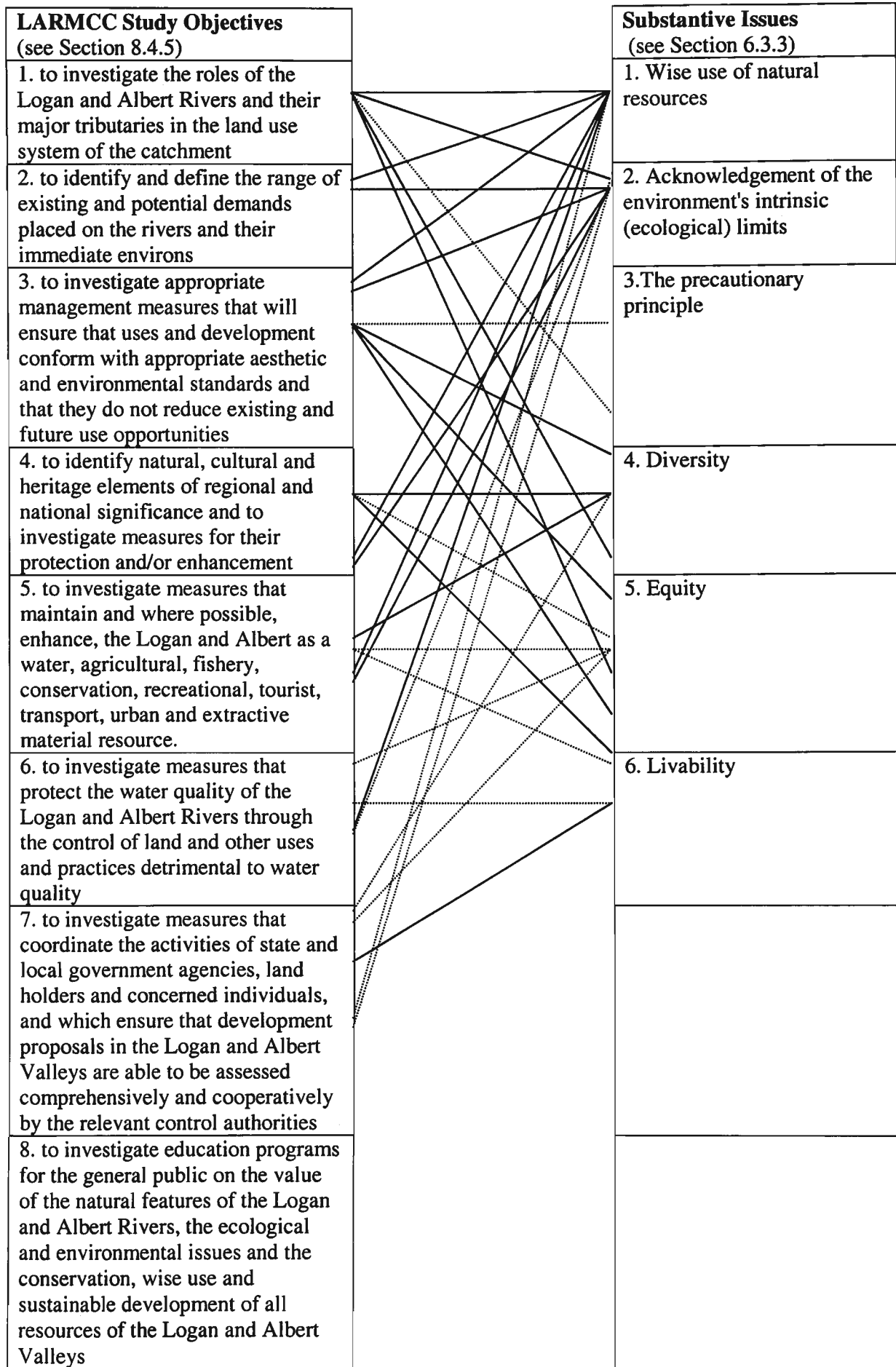
(based on Selman, 1999)

Further understanding of the nature of the planning paradigm shift in the experience of the Logan-Albert initiative can be gained by examining the initiative's response to the emergent substantive issues that have previously been discussed in Sections 5.3 and 6.3.

b. Addressing the substantive issues

Margerum (1999d) considers that the new paradigm in environmental planning and management will be based on integrated approaches that embrace a wider array of issues and stakeholders. There will be a convergence of contemporary and emergent paradigms from a diverse range of planning and planning related disciplines based on four principal substantive elements, namely: a holistic approach; goal-orientated; acknowledgment of interconnections in physical and social systems; and a strategic approach with a focus on implementation - see Section 6.2. By-and-large, the Logan-Albert initiative did embrace these broad substantive elements in its cooperative planning approach as discussed in the previous chapter.

The following diagram (first component of Figure 9.1) has been constructed to illustrate the alignment of the study objectives that the LARMCC set for its cooperative planning exercise against the recognised substantive issues for the emergent environmental planning paradigm. The second diagram of Figure 9.1 compares the policy themes outlined in the Logan-Albert discussion papers, and the derived set of WCM principles, with the same emergent principles for environmental planning.



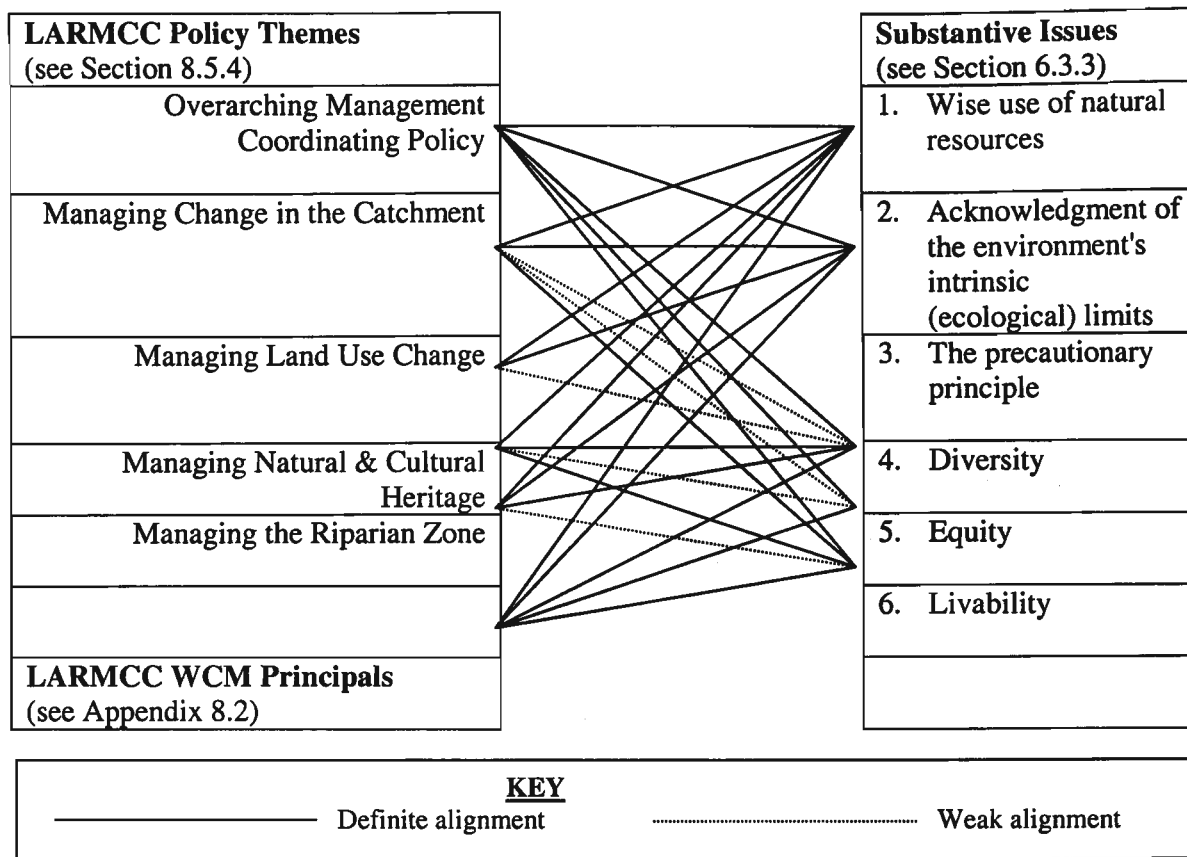


Figure 9.1: Logan-Albert Initiative's Attention to Substantive Issues of Paradigm Change

The major area of deficiency in terms of adequate coverage for the emergent principles is in relation to the 'precautionary principle'. This can partly be explained in terms of its relative recency and its lack of understanding in the lay world. During the review period, the concept was never discussed in any forum involving the elected representatives or senior planning officers. The attention to other emergent principles such as 'diversity' and 'equity' are only weakly developed.

One of the most challenging assignments to emerge relates to the intra-generational equity objective that seeks to arrive at a consensus position that satisfies the potential conflicts, particularly between rural and urban interests within this catchment. This issue is at the heart of all other issues, including the determination of the future of the entire catchment. For this issue, and the issue of the 'precautionary principle' to be proactively addressed, would require: a more comprehensive information base than currently exist; a long term capacity building exercise; the engagement of a far wider stakeholder group to a much higher degree than current exists; and an independent facilitator who can provide the necessary input over a long period at a sustained pace.

The 'livability' or quality of life issue shows signs of emerging strongly from the study objectives which reflects the relatively recent upsurge in community interest in these issues and

which now appear on the election platforms of most political representatives and aspirants. This aspect is relevant for both rural and urban areas within the catchment and it was particularly reinforced at a number of community workshops, LARCCC meetings and through other consultation feedback from the increasing numbers of rural residential landowners who now dominate the middle reaches of the catchment.

In term of the alignment with the policy themes expressed in the Discussion Papers, there are obvious stronger links. Comparison with the proposed third level policy themes intended for individual but coordinated local authority development (see Figure 8.17), also demonstrates an emergent stronger link than hitherto. This situation can be explained as largely a reflection on their relatively recent origins which have had the benefit of drawing on a much larger body of technical and community input, as well as the firmer foundation provided by the WCM principles. However the major factor stems from the greater understanding from the elected representatives and their planning advisers who approved the release of these discussion papers in this form. Again however, the concept of the precautionary principle has not been adequately dealt with in the policy development to date.

By comparison, there is a strong alignment established between the WCM principles and these substantive issues. This comes to the fore where these WCM principles have underlain the preparation of the policy elements of the Discussion Papers.

This comparative analysis demonstrates that there has been a relatively good alignment between the substantive issues of the emergent environmental planning paradigm and the study objectives that are now some four years old. However, it is equally evident that there is a need to redesign the cooperative planning objectives to fully account for the range of substantive issues and to align more closely with others.

c. Addressing the procedural issues

The principal issue of a procedural nature relates to the integrative requirement for environmental planning. If it is to span a number of discipline areas, and especially if it is to have a multi objective approach, it will have to adapt to far greater forms of integration activities. Armour (1989) provides a model designed for higher degrees of integration of environmental concerns into the planning process - see Section 5.3.3c. Interrogation of her model suggests that opportunities did exist for greater degrees of integration through the Logan-Albert initiative. For example:

- **Technical or disciplinary integration** was possible through the use of multidiscipline study team such as those established for the tertiary student projects, the special consultancies, and the Environmental Planning Team;

- **Consultative integration** was achieved by bringing together at various times competing interests. Examples include the River Forums for the general public and special and ordinary meetings of the LARMCC for the conflict resolution and management sessions. The establishment of the LARCCC was a formal structural response to this requirement; and
- **Organisational integration** was best achieved through the establishment and operation of the LARTSG which achieved vertical and horizontal integration by bringing together in the one group, officers from the local authorities, and all of the relevant state agencies that exercised some form of managerial control over areas within the catchment.

The alignment of Logan-Albert initiatives with the other procedural issues of the emergent paradigm for environmental planning is illustrated in Table 9.3. These procedural issues relating to an enhanced environmental planning paradigm have previously been canvassed and discussed in Section 6.3.4.

The details tabulated in Table 9.3 indicate that there have been genuine attempts to embrace and operate with these emergent themes of the developing environmental planning paradigm but it has not been uniform in coverage nor has it been consistent in effort. The most progressive initiative has been in the area of community engagement and capacity building. Again there were encouraging indications that the 'policy-implementation gap' was not only acknowledged but it was actively being addressed in a pragmatic sense.

By-and-large the biggest challenge appears to be related to the availability of resources. Given the history of limited resources that has characterised this initiative, it is doubtful if this constraint can be overcome in the short term although there were encouraging signs at the end of the review period. It requires a major effort to convince local authority partners of the opportunities and the potential benefits that could accrue to them from such a step up in cooperative commitments. The catchment community may be able to be enlisted to aid in the regard.

Table 9.3: Logan-Albert Initiative's Attention to Procedural Issues of Paradigm Change

Procedural Issues (see Section 6.3.4)	Examples from Logan-Albert initiative
1. Environmentally friendly planning and development control systems	<ul style="list-style-type: none"> • Not directly applicable to Logan-Albert initiative (LARMCC not responsible for development control) • LARMCCs overarching strategic policy attempts to be environmentally friendly • Individual member councils working towards this issue independently
2. Greater reliance on cooperative effort in planning and management	<ul style="list-style-type: none"> • This has increased over the life of the Logan-Albert initiative • Now formalised within local government circles
3. Meaningful community participation in planning and decision making	<ul style="list-style-type: none"> • Role of LARCCC with full representation on LARMCC • Set as an Aim of the LARMCC (limited weight to decision making as opposed to participation) • Range of workshops, forums and congresses • Needs improved community derived program
4. Incorporates a flexible and an adaptable planning approach	<ul style="list-style-type: none"> • Movement towards this issue (see Section 8.6) • Community environmental education set as objective for the cooperative planning study
5. Absence of a policy-implementation gap (incorporating monitoring and review)	<ul style="list-style-type: none"> • Movement towards this issues (see Section 8.6)
6. Ecosystems management approach	<ul style="list-style-type: none"> • Attempting to establish at the whole catchment level • Requires significant resources to improve data base and modeling
7. Embraces civic science as part of the true participatory approach	<ul style="list-style-type: none"> • Data sought from Landcare groups in catchment • Catchment schools engaged in data collection (eg waterwatch) • Input by number of community organisations (eg Carp busters, amateur and commercial fishers) • Limited indigenous input • No formal program to engage wider community
8. Communities access to environmental data	<ul style="list-style-type: none"> • Web site and Information Kits • Inferred in objective for the cooperative planning study

d. Transition towards an evolving Environmental Planning Approach

It has been previously noted that Campbell (1996) argues a case for planning to help shape new decision-making structures (ie the political and the market systems), in order to give the process credibility see Section 5.2. He maintains that one of the planning discipline's major contributions to the environmental management field is the planning process. Hence the emphasis on the cooperative planning process and the attention to a discrete Planning 'Business' Phase in the L-A CPM for the Logan-Albert initiative.

Clearly the collective form of this planning activity, cooperatively conducted in the Logan-Albert initiative, went well beyond the mandatory planning requirements of local governments

on Queensland. The previous discussion has demonstrated that the Logan-Albert experience has moved some way towards Selman's model of environmental planning (see Section 5.3.3b). In terms of his four categories of environmental planning activity, the achievements of the Logan-Albert initiative have included:

1. **Planning socio-economic systems** – this has not been mainstream to catchment planning activities. These issues have been addressed in a larger (geographic and institutional) forum, namely the SEQ2001/2021 regional planning process. Minor cross border issues of localised catchment significance have been addressed including containment of rural residential developments and the location of industry in upper reaches of the catchment.
2. **Planning life-support systems** – case study initiatives centred around water quality and related issues (scored highly in Delphi Study). It is embedded into the study objectives, picked up by the guiding WCM principles, and is a major theme in the emergent policy statements featured in the Discussion Papers. It was high on the community's priority management list. Most of the other elements (eg ecological conservation, maintenance of aquatic ecosystems, visual quality/aesthetics, recreational opportunities) scored extremely well in the top bands of both the manager's Delphi Study and the Community's priority list of key issues.

The specific address of water quality management has not been mainstream to the Logan-Albert cooperative planning activities. However, these issues have been addressed in the larger SEQ2001 regional planning process and later in more recent regional initiatives such as the Regional Landscape Strategy (RLS) and the SEQ Regional Water Quality Management Strategy (SEQRWQMS). Again, minor cross border issues of localised catchment significance have been addressed including: water quality issues related to agricultural land uses and rural industries, and management of the World Heritage area.

3. **Social learning** - this has been an objective of the LARMCC with growing interest. As previous discussion regarding the LARCCC and the associated public participation program have indicated, the LARMCC has gradually increased its enthusiasm for this form of community engagement in the cooperative planning process. The review of this experience clearly indicated that this has been a learning-through-experience exercise for the LARMCC, its individual members and the member councils. Attempts to provide for and to enhance social learning included initiatives such as: the community workshops and forums; the Discussion Papers; and the establishment of a web site and its associated functions. The next level of development in this area should be enhancing

community involvement in decision-making processes and accepting responsibility for agreed implementation components. Further efforts are also required to engage a larger stakeholder group from throughout the entire catchment. Associated with these initiatives should be an enhanced capacity building program for the catchment's community and for the elected representatives.

4. **Environmental modernisation and the sustainability transition** - whilst individual local authorities have taken unilateral initiatives in this regard (eg green levies), the whole catchment approach to policy development and cooperative management is perhaps the best example of achievements and attempts towards this 'integration' initiative. This chapter includes evidence to illustrate the flow-on effects and partial influence that these collective activities have had in reshaping planning and landscape management practices at the individual local authority level.

Further support for these conclusions comes from the previously discussed review of the Strategic Plans of individual member local authorities that was conducted at selected time intervals throughout the review period for the Logan-Albert case study. As concluded in Section 8.4.4d, the 1999 review noted that there was now far greater focus on the catchment's key issues of management concern in all local authority Strategic Plans. There was a significant increase in the number of new policies for these management themes in comparison to earlier plans, suggesting a growing understanding and focus of attention to these issues. However the greatest area of improvement was in the number of policies that could now be classed as explicit treatment of the key issues themes. The review concluded by acknowledging that there had been a significant swing away from the previous local authority focus on predominantly physical infrastructural aspects in their earlier Strategic Plans towards the broader range of environmental and socially related issues. This was particularly evident in the explicit attention that all local authorities in the catchment now gave to significant environmental management issues such as water quality. Their involvement in the cooperative exercise and the joint learning process that they experienced has contributed to a large extent to the achievement of this outcome.

A further appreciation of the alignment of the Logan-Albert case study to emergent environmental planning approaches can be gauged from a comparison with earlier noted work of Briassoulis (1989) – see Section 5.3.3b (Table 5.2). This work, which contains a comparative assessment of six conventional planning approaches in term of their appropriateness for addressing environmental planning dimensions, has been repeated in Table 9.4 in order to contrast the relevant attributes of the Logan-Albert experience them against.

Table 9.4: Comparison of Logan-Albert Cooperative Planning Initiative with Environmental Planning Approaches

Determinants	Dimensions	Values	Planning Approach						Logan Albert Case Study	
			Comprehensive ^e	Incremental	Adaptive	Contingency	Advocacy	Participatory		
1. Characteristics of environmental problem	1.1 Origin of problem	Human	Y	Y	Y	Y	Y	Y	Y	
		Nature	Y	Y	Y	Y	?		Y	
	1.2 Spatial Dimensions	Local	?	Y	Y	Y	Y	Y	Y	
		Regional	Y	Y	Y	Y	Y	Y	Y	
		Global	Y		?	?	?	?		
	1.3 Temporal dimensions	Short term		Y		Y	?	Y		
		Long term	Y		Y	Y	Y	Y	Y?	
	1.4 Risk/uncertainty associated with solution	Low	Y	?			?		?	
		High		Y	Y	Y	Y	Y	Y	
	2. Characteristics of the decision-making context	2.1 Nature of decisions to be made	Broad scope, high costs, long time horizon, disagreement		Y	Y	Y	Y	Y	Y
			Narrow scope, low costs, short time horizon, agreement	Y						
		2.2 Traditional mode & structure of public decision and policy making	Integrated demand, centralised decision making	Y		Y	?		?	Y (with LARMCC)
			Fragmented demand, decentralised decision making		Y	Y	Y	Y	Y	Y (without LARMCC)
		2.3 Distribution of power and authority	Concentrated	Y		?	?			
Fragmented				Y	?	?	Y	Y	Y	
2.4 Legal/institutional structure		Exists	Y	?	Y	Y	Y	Y	Y (councils)	
		Does not exist		Y	?	Y	?	?	?	
		Strong	Y		Y	?	Y	Y	Y	
2.5 Generated forces behind issues		Weak		Y	?	Y			?	
			Y	Y				Y		
3. Intellectual traditions of contributing discipline	3.1 Ecology		Y						?	
	3.2 Economics		Y		Y				?	
	3.3 Engineering		Y							
	3.4 Land use/regional planning		Y	Y	Y	?	Y	Y	Y	
	3.5 Political science		Y	Y	Y		Y	Y	Y	
Evaluation of Approaches										
1. Environmental soundness		Yes	Y		Y	?	?	?	Y	?
		No		Y			?	?		
2. Political realism		Yes	?	Y	?	?	?	?	Y	Y
		No	?		?	?	?	?		

Modified from: Briassoulis, 1989

Notes: Y = determinant of planning approach acknowledged; ? = not possible to answer with certainty; blank = not relevant

This comparison of Logan-Albert case study attributes demonstrates that it has maximum correlation with a combined or hybrid comprehensive-adaptive planning paradigm. This assessment provides further evidence of the evolutionary trend of the Logan-Albert planning endeavours to move towards the focus and intent of evolving forms of environmental planning, and in particular, to embrace a hybrid comprehensive-adaptive planning paradigm. This noted, there is also a relatively strong alignment with the incremental planning approach.

Major points of note from this comparison centre on the delegation of power from the member local authorities to the LARMCC and the distribution of that power within the catchment (see Dimension 2.3 in Table 9.4). As previously discussed, the member councils did not delegate final decision making power to the management committee but held it individually within their traditional power bases. Consequently, the LARMCC only had 'recommendation' powers and each agreement of the collective LARMCC had to be referred back to their respective councils for ratification (this accounts for the assessment given in Dimension 2.2, Table 9.4). Whilst the dual political-technical representation of each council on the LARMCC meant that this could be done at both the political and technical levels, it slowed down the cooperative planning process considerably and it did not have a positive effect on the building of trust within the LARMCC. A similar situation also arose within the cooperative venture. The LARMCC limited the degree of autonomy that it granted to the LARCCC and its arrangements for power sharing in its decision-making framework even though the LARCCC had representation on the LARMCC.

e. Response to trends in associated planning fields

i. Landscape planning

It is worth noting that it was a landscape planning approach that was used to devise the original *Watercourse Management Strategy* and the *Adjacent Shires Cooperation Policy*" that initially set in train the Logan-Albert initiative.

Areas where there are positive correlations between the Logan-Albert cooperative planning approach (as expressed in the policy Discussion Papers) with the principal elements of the evolving paradigms of landscape planning that emerged from the previous review of this field (see section 5.3.1) include: strategic and regional scale application; strong ecological base (at the catchment scale); biophysical (scientific) approach; pursuit of multi purpose objectives; strong interest in visual resource management; and a problem solving dimension. Areas where there was an absent to weak correlation included: the integration of social and cultural dimensions in landscape planning; and landscape design.

A notable element of the field of landscape planning that can often stand it apart from other forms of planning endeavour relates to the focus and weight that it gives to remedial efforts for landscape restoration and rehabilitation, including policy development in these theme areas. Its ecological design approach to rehabilitation can provide some real meaning to the commonly prescribed objectives of many planning studies that seek landscape enhancement.

"Rehabilitation of degraded lands/banks" was scored in the top band of the Delphi Study and was rated first priority in the Community's priority list of key management issues. Typical of the early 1990s, there were no policies for this high priority management issue in any of the local authority Strategic Plans in the catchment. Also at this time, landscape planning was a virtually unknown field of planning. However, by 1999, all of the downstream urban local authorities had redressed this deficiency.

A second discrete set of issues that also stands landscape planning apart from other planning fields is the area of landscape aesthetics and visual resource management. The key management issue of "visual quality/aesthetics" was rated in the second priority band of the Delphi Study. It was ranked sixth in the Community's priority list. Surprisingly, it was one key issue that had extensive policy coverage from the 1993 Strategic Plans of all councils right through to the 1999 series. This can be explained by the relationship between the visual landscape and the 'quality of life' objectives that increasingly dominate planning goals and hence, the political platforms throughout the period of the case study review.

This review suggest that there are elements of the landscape planning field that would be beneficial to a cooperative planning exercise such as that undertaken for the Logan-Albert initiative. For example, its policy approach to landscape rehabilitation should be incorporated first into the plan making phase to address those community objectives previously mentioned. This should then be followed up with the development of landscape restoration design proposals and their incorporation into action plans of the plan implementation phase. Landscape planning's ability to treat cultural dimensions in association with the biophysical and social aspects are also of pertinent interest.

ii. Bioregional planning

Klyza (in McGinnis, 1999) considers that bioregionalism, like other theories calling for significant changes in the design of modern societies and their institutions, is too abstract, and that at this stage in its rediscovery, what is required are "on-the-ground" case studies to demonstrate the theory being put into practice. Whilst there is no philosophical alignment between the Logan-Albert initiative and the purest forms of bioregionalism noted in Section 5.3.2, there are certain similarities of practice that should be noted. For the case study, these

were variable in application and included: utilisation of a natural area (bioregion); application at the regional scale; and action orientation (ie it included a learning-by-doing process).

Examples of variable to minimal correlation with the Logan-Albert case study (including situations where initiatives were in their infancy) included: consideration of a longer time frame (as opposed to the normal three election cycle for achieving many policy outcomes); integrated approach; adaptive management approach; true community participation (including decision making); catchment community building (part of bioregional restoration); and scientific approach in planning and policy development. Areas where there was no evidence of correlation of approach included: redesign of management institutions; leadership drawn from below; and ecological-bioregional restoration.

Under the current administrative, planning and institutional circumstances that exist in Queensland local government, it is difficult to foresee circumstance in which a full bioregional approach will replace the present, albeit evolving, forms of landscape and environmental management. There are opportunities as demonstrated by the Logan-Albert case study for selected attributes to be picked up in these evolving forms of cooperative environmental planning.

The other major issues of note in regard to the bioregional approach concerns the institutional aspects of planning and management. Brunckhorst (2000: 34) claims that "policy communities or communities of common concern, which are loosely organised, local-regional, social networks allow innovation for development of new institutional forms and organisational arrangements to pursue social and ecological sustainability". This view is also supported by various case studies - see Gunderson et al, 1995 and Johnson et al, 1999. The Logan-Albert experience has not provided any support for this notion, especially when the rural verses urban divide is acknowledged. The catchment was far too large with too many diverse interests and issues for most members of the first LRCCC to cope with. The challenge in this regard is always going to be defining an appropriate level for a workable community-of-interest, one that the public can relate to and take responsibility for - one that can take them beyond their individual 'backyards'.

McGinnis (1999: 61) notes "Human beings and other animals are boundary creatures". He sees the issue of achieving higher degrees of bioregionalism in practice related to the reconciliation of a fundamental border redefinition that involves spatial, functional and temporal dimensions - see Section 5.3.2e.

f. Achievements in the Planning Theme

In terms of the global macro issues, it has been shown that the cooperative planning associated with the Logan-Albert initiative has moved during the period of review consistent with the direction of the planning paradigm shift previously noted in Chapters 5 and 6. Whilst it now shows signs of incorporating or developing selected attributes of emergent models of contemporary environmental planning, there are also indications that further developments in this direction will not result overnight. The pace of future change will be influenced by the changes occurring in the broader planning and landscape management context to the Logan-Albert initiative. This will largely be influenced by the leadership displayed by the State government. It will also be dependent on the maintenance of the cooperative spirit and arrangements that had been achieved towards the end of the review period.

The comparative review of the adopted planning approach for the Logan-Albert initiative has demonstrated a close alignment in detail with the evolving form of the comprehensive-adaptive planning approach. In a broad sense, it also showed reasonable strong correlations with the incremental approach. This is not surprising given the evolutionary and cautious stepped approach the LARMCC took as it moved through its eleven years of cooperative experience to its final collaborative planning form.

It has been demonstrated that there have been genuine attempts to embrace the emergent themes of the developing environmental planning paradigm, particularly the procedural issues although they were not always consistently pursued. Never-the-less, the conclusion can be drawn from the preceding analysis that the Logan-Albert initiative has addressed these procedural issues reasonable well. The opportunity was taken to embrace more integrated approaches to landscape management across a whole range of activities. This included attempts at improved integration of biophysical with social, economic and cultural issues, aspects and agendas. However, the most progressive achievement has been in the area of community engagement which has gone from strength to strength during the course of the review period as the confidence of members of the LARMCC grew and as they gained in their understanding and hence their appreciation of the benefits of this form of cooperative activity.

The review of the initiative's embrace of the substantive issues associated with the emergent field of environmental planning suggests a similar outcome. There were indications that some issues had been embraced to a reasonable high degree, especially those related to water and to the river such as livability and intrinsic limits. However, this application has been uneven and in some instances absent (eg precautionary principle). Clearly the emergent issues that endeavour to promote a longer time scale of consideration and planning are least well understood and accepted. Similar conclusions can be drawn for those issues that have no

immediate impact on catchment life especially in terms of those aspects that currently position a local authority in Hall's primary and secondary cycles of his local government "Life Cycle" model (see Figure 8.3). This suggests that there is a need for greater awareness and education of these substantive issues within local government circles at both the elected representative and officer levels. In fact the absence of this full appreciation at this point in the cooperative process suggests that a special capacity building process needs to be built into the program from this point on.

It has been argued that in an adaptive planning and management environment, which has well-developed monitoring, evaluation, reporting and learning-by-doing components built in, that this capacity building will occur automatically. Given the appreciation that the Logan-Albert initiative was already displaying very encouraging signs of a comprehensive-adaptive planning approach, it is reasonable to anticipate that this direction could be continued. However, given the history of change experienced already it may not be sufficient to expect that this will occur in a timely fashion and a more proactive approach may be called for. This then raises the question as to whether the proposals for monitoring, evaluation and reporting (outlined in Sections 8.6.2 and 8.6.3), alone, will be satisfactory to achieve this goal?

It was recognised that successful cooperative planning exercises of this nature would need to result in their corporate planning decisions and policies cascading downwards to influence the planning schemes of individual member local authorities. The previously reported review of Strategic Plans has shown that by the end of the study's review period (1999) there was a significantly improved focus on the catchment's key issues of management concern. This was accompanied by much greater policy coverage across a broader range of key management issues in all of the local authority Strategic Plans (see Section 8.4.3d). Thus the outputs from the LARMCCs cooperative process led directly into the statutory planning instruments of local government namely their strategic plans.

The experience of the Logan-Albert case study has demonstrated that traditional planning can reinvent itself to be able to respond to the array of regional scale challenges typical of those that confronted this catchment initiative. This adaptive approach of *traditional local government planning frameworks can address regionally significant environmental issues of catchment scale*.

However, as this case study along with the comparative case studies has consistently shown, the utility of the traditional planning approach for environmental and landscape management is not well understood outside of planning circles. For it to achieve a higher degree of acceptance by those responsible for environmental management and policy development particularly at local

government level, it will require a concerted promotional and educational effort by planners and the planning profession.

9.1.2 Evaluation of the Regional Theme

This second research theme of the thesis proposition questions whether *voluntary groupings of local authorities within a river catchment can address regionally significant environmental issues*.

This question seeks clarification as to whether new subnational levels of governance are required to address the contemporary regional scale management and planning challenges, or, will the adaptation of existing arrangements suffice?

The definitional and operational questions related to the regional theme that were posed in relation to the original research question in Section 1.5.2 and Figure 1.4 have been addressed in Section 3.1 which defined and examined the challenges and prospects that existed at the subnational level. Further planning responses at this level were discussed in Section 3.3. These aspects have been extended in Chapter 5 where emergent planning paradigms appropriate to the regional level and aspects of the New Regionalism have been introduced. Chapter 5 discussed in some detail the relationship between these emergent planning paradigms and traditional planning approaches. The regional scale dimensions of the converging paradigms for landscape management were further addressed in Chapter 6. The review of the Logan-Albert case study (Chapter 8), paid particular attention to examining the appropriateness of the regional or catchment scale planning approach by local government, particularly where traditional approaches were extended to address regional scale environmental management challenges.

As previously discussed in Section 5.3.2e, McGinnis (1999) has noted that there are virtually three situational circumstances where cooperative approaches are being applied at the regional scale, namely:

1. between regional groupings of institutions demarcated along artificial boundaries
2. between regional communities within a natural region - ie a bioregion; and
3. between regional groupings of artificially delineated institutions but within a naturally occurring bioregion spatial unit, eg a watershed.

Noting that the first two scenarios represent 'regionalisation' and 'bioregionalism' respectively, he contends that it is this third scenario that has received least attention to date. This third scenario is represented by the Logan-Albert case study.

If stakeholders to a regional cooperative venture are required to develop their own agendas then it will be important for them to have the ability to focus at this regional level on issues of regional significance. This review of the regional aspects of the research themes seeks to ascertain how well these tasks were completed during the course of the Logan-Albert case study. Specifically, it addresses:

- how the Logan-Albert initiative related to the emergent and contemporary approaches to regional planning;
- how the initiative addressed the regional issues of landscape management significance in the catchment; and
- the nature and influence of parallel subregional initiatives in the general catchment area.

a. Relevance to contemporary approaches

It was acknowledged in Section 5.4.1 that underpinning the New Urbanism was the recognition that new ways to manage new technologies, urban growth and change must be sought as our old ways no longer worked. It also advocated that starting afresh is not an option and that we must make do with what we have - we need to cooperate in an integrated fashion. In terms of the regional principles in the *Charter of the New Urbanism*, there are suggestions that we evolving new regional forms of management at the regional scale. However, outside of the SEQ2021 exercise and the MBWCP, there is no evidence of this in the SEQ or Queensland context at this point-in-time. Certainly the experience of the Logan-Albert initiative is that local government will adopt the minimalist approach when it come to alternative forms of governance and more than likely, seek to maintain the status quo. It is difficult to see the LARMCC being given absolute delegated authority by its member councils to make decisions and commitments on their individual behalves.

In terms of recent and promising developments in the regional planning field that have previously been discussed in Section 5.4.2c, it would be informative to contrast them against the achievements of the Logan-Albert case study experience (see Table 9.5).

Table 9.5: Comparison of Logan-Albert Initiative with recent Regional Planning Initiatives

Recent Regional Planning Initiatives (see Section 5.4.2c)	Examples from Logan-Albert Initiative
1. Emphasis on action	<ul style="list-style-type: none"> The proposed management policies contain an action plan
2. Consideration of a broad and diverse range of stakeholders	<ul style="list-style-type: none"> A principal objective of the stakeholder analysis for the LARCCC
3. Attention to external opportunities and threats	<ul style="list-style-type: none"> Not a principal concern - original ICM concern for short time early 1990s
4. Attention to internal strengths and weaknesses	<ul style="list-style-type: none"> Not a principal concern - LARMCC resolved to review institutional arrangements for improve implementation
5. Attention to actual or potential competitors	<ul style="list-style-type: none"> Not applicable
6. Attempts to measure 'quality of life' by location	<ul style="list-style-type: none"> Key issues but not addressed in quantitative manner
7. Rediscovery of strategic planning at the regional level	<ul style="list-style-type: none"> A strength of the cooperative planning exercise
8. Addressing the bidirectional relationship between planning and the environment	<ul style="list-style-type: none"> Imbedded into policy development in Discussion Papers (see also Figure 9.1)
9. Shift to mix of top-down and bottom-up initiatives	<ul style="list-style-type: none"> Emerging with the evolving relationships between the LARMCC and LARCCC
10. Range in power base - advisory to statutory	<ul style="list-style-type: none"> LARMCC was purely advisory but statutory control exercised through member council (eg catchment advisory policies to statutory town planning schemes of individual councils)
11. Shift in decision making - central to local	<ul style="list-style-type: none"> At macro level (State to Local Govt) but no delegation to LARMCC from member councils
12. Growing recognition of sustainability issues and concerns	<ul style="list-style-type: none"> Evidence in policy development (see Figure 9.1)

These regional planning examples from the Logan-Albert initiative varied in extent and impact of their influence. However their existence as demonstrated in Table 9.5 does suggest that the cooperative planning process was attempting to move forward in a manner consistent with current thoughts on emergent regional levels of planning endeavour.

b. Addressing Logan-Albert regional issues

It is recognised that a regional approach has the ability to get collective recognition of problems amongst a group of local authorities whereas individually, they would not normally admit to these problems. This was proven to be the case during the early years of the Logan-Albert initiative and the initial Delphi Study assisted to bring about this collective acknowledgement and understanding of the main management challenges of regional significance for the Logan River system. This Delphi Study resulted in some forty-one key issues and associated

management challenges and problems being identified by the public resource managers, principally the local authorities. The Delphi Study also proved successful in dealing with the regional issues as it assisted in keeping the participant's collective focus on issues of regional significance. The same can be concluded in regard to the community workshops, although the forums that provided opportunities for all attendees to speak, in some cases tended to focus on single issues at the local level. Relating to an unfamiliar scale such as the region or the whole catchment (3,740 sq kms), proved to be challenging for some members of the LARCCC as well. Their deliberations at times lapsed into discussions of single issues at the local scale. In time however, a regional scale appreciation and focus was achieved.

An indication of the improved ability of the local authorities to conceptualise regionally and to consequently plan (cooperatively) at the regional scale can be gauged from a comparison of their early concepts of regionally significant resources near the time of the LRMCC formation, to their 1999 regional cooperative undertakings. Acknowledging the previous definitions of 'regional significance' (see Section 3.3.6b), the former situation can be gauged from discussion in Section 7.2.3 and summarised in Table 7.1. Whilst there was only a very limited number of nominations and most tended to be visually prominent physical features, it was noted that only one local authority (LCC) nominated the Logan River as an area of regional conservation significance. Interestingly for this time, regional planning was nominated as a preferred management solution for a number of the issues.

The 4th round Delphi Study (completed in 1997) had produced a list of some forty-one key issues of which a half were of a regional nature or regionally focused. Unfortunately this did not all transfer into management actions through the statutory planning mechanisms that were available to local governments at that time as the review of the councils' Strategic Plans has demonstrated. However, the study objectives adopted for the cooperative planning exercise clearly placed the emphasis at the whole catchment level and as a consequence, all of the final Discussion Papers had regional scale themes eg the catchment, the river, and the riparian zone.

Further evidence comes from the adopted Vision Statement for the cooperative planning exercise where there is the clear intent that the LARMCC intended to apply their cooperative planning endeavours across the whole Logan-Albert catchment going well beyond their individual boundaries to the regional scale of the catchment (see Section 8.5.1).

c. Parallel Sub-regional initiatives

Outside of the immediate confines of the Logan Albert cooperative initiative there was little recognition of the Logan and Albert Rivers system, and virtually none, as a regional resource. For example, there were a number of other concurrent sub-regional exercises at the time of the

case study review period. These tended to confer additional regional level status on the case study area through association. One example is the SouthROCs regional environmental focus on the Scenic Rim. As the Logan and Albert Rivers have their headwaters in that feature they were automatically associated with those initiatives. The area of the Scenic Rim along with associated areas of rainforest of northern NSW gained World Heritage status in 1994.

On the other hand, other sub regional initiatives were silent or had no influence on the regional focus on the river system of the case study. For example, the SouthROC Sub Regional Structure Planning Study (1995) was totally silent on any reference to river systems, save for generic references to water quality of receiving waters of Southern Moreton Bay. Likewise the Regional Communities Conference that was conducted in the catchment at Beenleigh by DCILGP during 1999 did not focus on regional issues. It was merely held in a regional centre and the issues that attendees raised had a wide range but were not of a regional nature (DCILGP, 1999). It can be concluded that in the broader spheres of environmental and landscape management there was still very limited ability and intent to focus on regional issues. Likewise, there was a reluctance to consider management issues at the regional scale, particularly at the expense and ease of focusing on local "back yard" issues.

d. Achievements in the Regional Theme

The Logan-Albert experience has confirmed that the cooperative planning processes led to a greater degree of acceptance of management challenges of regional significance. It also demonstrated that the LARMCC accepted the imperative of extending their planning and management endeavours beyond the boundaries of individual local authorities to the whole catchment in order to address those issues of regional significance. The evidence examined has also demonstrated that initiatives of this cooperative planning process had progressed in a manner consistent with contemporary thoughts and practices of emergent regional levels of planning endeavour.

The Logan-Albert initiative has also been shown to have been relatively successful at establishing a regional level planning response to address contemporary management issues of regional significance without the necessity of establishing a new management body or a new and additional layer of bureaucracy and governance. When it was demonstrated that this initiative was not a threat to local government, it gained their immediate acceptance.

The Logan-Albert case study experience has established that new subnational levels of governance are not required to address the contemporary regional scale management and planning challenges and that *voluntary groupings of local authorities within a river catchment can address regionally significant environmental issues.*

This case study, supported by the experience of the comparative case studies has shown that local government is more likely to collectively acknowledge and address problems and management challenges that they may not have done so, on an individual basis. This includes those of a regional nature that may not necessarily be located solely within their primary area of responsibility. However, the Logan-Albert experience has demonstrated that this process can be enhanced and facilitated by clearer guidance and direction and encouragement from higher order government.

9.1.3 Evaluation of the Cooperative Theme

This research theme to the thesis proposition questions whether *voluntary cooperation amongst local authorities within a river catchment is possible for the purposes of environmental management and planning at the regional scale.*

It also seeks to clarify the degree that local government and other landscape management agencies embraced a cooperative approach to successfully address contemporary environmental issues at the regional level. These considerations also impinge upon the question of whether a regional scale approach actually involves new subnational levels of governance, management and planning or can they be achieved through the adaptation to existing arrangements.

The definitional and operational questions related to the cooperative theme were advanced with the original research question in Section 1.5.2 and Figure 1.4. They have been addressed in Chapter 4 that defined and examined the challenges and prospects for cooperative effort in planning and landscape management. These aspects have been extended in Chapter 5 where emergent collaborative planning paradigms and their relationship to traditional planning were discussed in some detail. Chapter 6 focused on cooperative management models and their potential role in converging paradigms of practice for landscape management. An enhanced cooperative management model tailored to the Logan-Albert experience was used as the basis for the review of the Logan-Albert case study (see Chapter 8). Particular attention was given to examining the degree and nature of the cooperative effort that was achieved over the duration of the case study review period.

Specifically, the principal interest lies in ascertaining how far the cooperative planning process for the Logan-Albert initiative has moved in the direction of contemporary and emergent approaches to cooperation. As was noted in the previous chapter, this outcome involves a shift in emphasis for the cooperative effort from the generic and the initial planning proposal end of the decision making spectrum towards the "sharper" end - the commitment to implementation end.

a. Commencing the cooperative venture

Ostrom (2000: 138) points to the substantial gap "between the theoretical predictions that self-interested individuals will have extreme difficulty in coordinating collective action and the reality that such cooperative behaviour is widespread, although far from inevitable". A central finding of Ostrom's work is that there are a variety of individuals with varying degrees of willingness to initiate reciprocity to achieve the benefits of collective action. One of the central questions concerns how these potential cooperators signal each other and design institutions that reinforce rather than destroy conditional cooperation. To this end the Logan-Albert experience assist to understand these forces and processes at play in the cooperative planning environment.

At the beginning of the Logan-Albert cooperative process, none of the necessary elements that would be conducive for successful cooperation were in place. Whilst the previous assessment of the Demonstration of Need Phase has dealt with these issues in some detail (see Section 8.1), it is worth summarising some of these issues here. Gray (1989: 10) places these challenges into context when she articulates a set of typical characteristics that can distinguish this preliminary phase. All of these issues related to the case study in the pre 1989 era and in the case of the local authority stakeholders, included:

- *Problems were ill defined* and at times there was disagreement about how they should be defined (eg the impact that rural land use activities had on the lower reaches of the watercourses);
- Several stakeholders had a *vested interest in the problems* and had a tendency to act interdependent (eg local authorities seeking to attract riverside investment into their areas);
- These stakeholders are *not necessarily identified a priori or organised in a systematic way* (eg there were no mechanisms or forums [formal or informal] for local government to collaboratively address these issues themselves, except perhaps in a court of law);
- There was a *disparity of power and resources* for dealing with the problems amongst the local government stakeholders (eg this was evidenced by BSCs, and to a lesser degree BDSCs, reluctance to participate initially);
- Stakeholders had *different levels of expertise and different access to information* about the problems (eg the 'rural' verses 'urban' divide between the local authorities);
- The problems were often characterised by *technical complexity and scientific uncertainty* (eg water quality issues, potential impacts from sand and gravel extraction, and the implications of the Davis Gelatine proposal);
- *Differing perspectives on the problems* often led to adversarial relationships amongst stakeholders (eg the 'rural' verses 'urban' divide between the councils best illustrates this issue);

- *Incremental or unilateral efforts* to deal with the problems typically produce less than satisfactory solutions (eg BDSC wish to complete its own sand and gravel study for the upper reaches without coordination with a similar study for the lower reach); and
- *Past and existing processes* for addressing the problems had proven insufficient and may even have exacerbated them (eg State government's heavy handed approach to past top down directed coordination activities).

The decision whether to cooperate or not in the case of the Logan-Albert initiative was ultimately made by individual councils through a self-selection process. Thus it is informative to appreciate what were their individual as well as their collective views, motives and responses to cooperate. Yaffee (1998: 278) has cited strong self-interest motives for cooperation - see Section 4.1.2. This appears to have been the case for the Logan-Albert local authorities whose probable self-interest motives would have included:

LCC - Logan City has nearly 70% of the catchment's population and had experienced growth rates in the order of 17-18% per annum. These enormous development pressures were expressed in many ways but two issues had a major impact on how it saw its management responsibilities in regard to the Logan River. The two principal resources issues that stood out were riverside land suitable for subdivision and the river's sand and gravel resources. As a newly created local government (1978) with limited infrastructure, and under these growth and development pressures, it was in basic survival mode during the 1980s. This is not to deny the concerns for the river as a physical, recreational and landscape resource to the city as a whole that was shared by some elected officials and senior council staff as previously noted.

ASC - as the adjacent local government area to LCC and sharing the Logan River as a common boundary, ASC had similar development pressures, although they were not as acutely focused on the river due to the shire's history and extensive size.

RSC - at the mouth of the Logan River and with newly acquired responsibilities for most of the islands in Moreton Bay, RSC was acutely aware of its vulnerable position within the catchment. It perceived itself virtually at the mercy of the management policies of all other local governments in the catchment. This was the view of RSC's first elected representative on the LRMCC who later became its mayor.

BDSC the mayor at the time of formation of the LRMCC has confirmed that his two motives were to protect BDSC's access to the water resource and to ensure that the other local authorities in the catchment did not place any undue restrictions and unwanted guidance on their town planning scheme. This was also confirmed by the long serving BDSC councillor who on joining the management committee in 1991 was instructed by the mayor at that time that her sole task was a watching brief to ensure that no undue restrictions were imposed on BDSC's town planning scheme.

BSC - had similar views to BDSC in regard to the safeguarding of its rural interests. However, when it joined in 1994, it was also taking out political insurance in the form of establishing future potential allies in its potential fight against the State government who was then proposing a number of potential dam sites in SEQ. This conclusion supports Alexander's IOC Exchange theory for long term resource exchange (1995) - see Section 4.1.2.

However in an overall sense, the original motives for cooperation in the case of the LARMCC initiative can also be explained by Alexander's (1995) *Contingency Theory and Organisational Ecology* model (see Section 4.1.2). The first component of this model addresses an organisation's adaptability to its environment whilst the second focuses on the fit of the organisation into their 'ecological niche'. Survival depends on how well this adaptation or fit occurs. The theory can explain the evolution of interorganisational cooperative structures as well as internal structural adjustments made by the participating organisations. The Logan-Albert experience has confirmed that motivation for organisational behaviour did change from initial resource exchange during the formative stages to adaptation to changing environments in the subsequent stages of the organisation's life cycle.

There is no doubt that Yaffee's self-interest motives were at play at the time of the formation of the LRMCC and that whilst they varied in intensity between the individual local authorities they played an influential role in getting the eventual partners to the negotiating table.

b. Factors promoting and opposing cooperative behaviour

In time, it was accepted that some form of cooperative action was necessary in order to address the acknowledged management challenges of regional significance. However, there were many forces at play which both facilitated cooperative action as well as others that mitigated against successful cooperation. They are what Yaffee (1998) has recognised as centrifugal forces (elements that make cooperation less likely) as opposed to the centripetal forces (elements that make cooperation more likely) - see Section 6.6.1, in particular Figure 6.6 and Table 6.4. A review of the case study has revealed that an extensive array of these centrifugal and centripetal forces existed at different times during the eleven-year cooperative exercise. These forces have been identified and are examined in relation to the various phases and steps of the L-A CPM for the Logan-Albert initiative. Table 9.6 provides this assessment.

Clearly, the success of the cooperative initiative in each of the L-A CPM phases indicates that there were sufficient centripetal forces to overcome the constraints and negative impacts from the centrifugal forces,

Table 9.6: Centrifugal and Centripetal Forces Influencing the Logan-Albert Case Study

Logan-Albert Cooperative Planning Phases & Steps	Centrifugal Forces* (making cooperation less likely)	Centripetal Forces* (making cooperation more likely)
Demonstration of Need (Antecedents) 1. Confirm sponsor commitment 2. Identification of stakeholders 3. Identify networks 4. Commence dialogue and negotiations	<ul style="list-style-type: none"> • Inability to relate to and appreciate the regional level - inwardly focused (originally BSC) • Desire for autonomy and control of internal affairs (eg BSC and BDSC particularly in relation to town planning scheme) • Different traditions and norms (eg rural verses urban divisions; confidential approach to strategic plan making) • Loss of priority (eg in post-election period) • Threat of take-over of traditional council functions (eg bogus 'Water Authority' proposal) • Perception of "free-rider" phenomenon by BDSC/BSC of down stream local authorities • "bad" past experience (eg BDSC mayor's experience with forced coordination direction by past State governments) • absence of a major conflict • <i>Lack of a precedent (eg limited planning and environmental management approach in Qld - see Section 7.2.3)</i> 	<ul style="list-style-type: none"> • Strong political leadership and sponsorship (eg LCC - Council, Alderman, Mayor and City Planner) • Acknowledgment of common problems or threats (eg original acceptance of potential threats from unchecked urbanisation) • (Pseudo) crises (eg threat of potential water pollution and unchecked recreation usage of river; new subdivisions restricting access to river) • Third party intervention (eg early role of Facilitator) • Established networks within LCC and Logan City (eg Committee system) • "reciprocal cooperation" trust factor (eg RSC, LCC trust) • projecting cooperative initiative from a firm base (eg provided by interim committee and supported by LCC)
Formative (Problem Setting – Part 1) 1. Stakeholder analysis 2. Establish Cooperative Group 3. Appoint a facilitator 4. Obtain commitment 5. Set agenda 6. Conduct early cooperative exercise	<ul style="list-style-type: none"> • Absence of all essential participants (eg BSC) • Conflicting goals (eg rural verses urban divisions; original water resource focus of BDSC verses planning focus for other councils) • Local authority only in early stage of Hall's Local Government "Life Cycle" (eg BSC) or with only reactive/fragmented response abilities (eg smaller councils) • <u>Personality clashes (eg between individual representatives)</u> • <i>Different traditions and norms (eg State agency views of local government; councils distrust of state government)</i> • <i>Changes to bureaucracy (eg difficulties identifying and maintaining continuity of representation in new organisations)</i> 	<ul style="list-style-type: none"> • Conduct of early cooperative exercises (eg Logan River Week) • Perception of common problems/threats (eg Delphi Study) • Major policy shifts particularly resulting from election promises (eg LCC after council elections) • To "maintain a watching brief" on potentially detrimental proposals and outcomes (eg BDSC early stance) • <i>Change in policies of higher order government (eg as a consequence of election of a Labour government)</i>
Gestation (Problem Setting – Part 2) 1. Confirm common problems/issues 2. Assess capacity of	<ul style="list-style-type: none"> • Limited resources (constant challenges in securing financial resources from individual councils) • Disagreement over catchment (regional scale) priority issues (eg rural verses urban interests between councils) • Inadequate basis for decision making (eg lack of pertinent 	<ul style="list-style-type: none"> • Participation by all stakeholders (BSC eventually) • Establishing an early agreed set of issues and/or problems (eg Delphi Study) • Agreement on cooperative approach to resourcing (eg agreed formula by mutual consent)

Logan-Albert Cooperative Planning Phases & Steps	Centrifugal Forces* (making cooperation less likely)	Centripetal Forces* (making cooperation more likely)
stakeholders 3. Identify and secure resources 4. Confirm partnership 5. Establish protocols, modus operandi and ground rules	technical data related to catchment <ul style="list-style-type: none"> • Inadequate process for securing resources (eg individual councillors competing in own councils for Logan-Albert resources each year) • Unstable membership (eg changes brought about by local government election results and changes to bureaucracy) • Lack of delegated authority to LARMCC (eg member councils required constant referral of recommendations for approval) • Frustration with pace of activities and achievements (for above same reasons) <hr/> <ul style="list-style-type: none"> • <i>Perceive duplication with other external programs and initiatives (eg the ICM program - non strategic planning)</i> 	<ul style="list-style-type: none"> • Confident and trusting group (eg distinct 'gestation' period providing time for trust and mutual respect to be built up) • Gaining 'legitimate' status (eg accepted as Sub committee of SROC) <hr/> <ul style="list-style-type: none"> • <i>Peer pressure/diffusion process (eg BDSC influence on BSC)</i> • <i>Positive examples set by external initiatives raised confidence in process (eg SEQ2001; establishment of ROCs)</i>
Consolidation (Direction Setting) 1. Confirm cooperative arrangement & agree TOR 2. Conflict resolution and management 3. Organise subgroups 4. Conduct joint fact finding (incl exchange of information) 5. Consolidate the future direction	<ul style="list-style-type: none"> • Lack of adequate level of community involvement (eg LARMCCs tentative approach to public participation proposals) • Criticism of limited opportunities for public involvement (eg limited support for 1st CCC; too tight a control on CCC structure and activities) • Perceptions of external interference in domestic matter (eg BDSCs fear of undue direction from LARMCC impacting on its town planning scheme) • Lack of commitment from member organisations (eg minimalist approach adopted by some councils) 	<ul style="list-style-type: none"> • Stable membership of committees (eg long term members and members with personal interest in river issues now attracted to initiative for the long haul) • Successful attempts at conflict management and resolution (eg early sand and gravel issues; town plan criticism process) • Successful cooperative handling of a 'crisis' (eg the proposed Davis Gelatine development) • Operations of successfully established sub-groups (eg technical sub-committees for flood/fill policy and sand and gravel extraction; 1st CCC; Teacher's Network) • Conduct of successful community engagement exercises (eg River Search Workshops and Forums) • Joint learning exercises (eg Strategic Plan reviews) • An agreed way ahead (eg endorsed ongoing development of a Management Strategy for Logan and Albert Rivers catchment) <hr/> <ul style="list-style-type: none"> • <i>Stronger direction (eg emergent State government interest in environmental planning and management)</i>
Planning Business (Structuring) 1. Confirm goals and objectives	<ul style="list-style-type: none"> • Loss of momentum (eg changes in elected officials after elections) • Some councils' overwhelming preoccupation with retaining their planning autonomy and control (eg the process 	<ul style="list-style-type: none"> • Adoption of long term view as opposed to short term election cycle view (eg acceptance of a 'visionary' as opposed to a problematic approach; and a strategic view) • Widening the cooperative net (eg 4th round Delphi Study; re-

Logan-Albert Cooperative Planning Phases & Steps	Centrifugal Forces* (making cooperation less likely)	Centripetal Forces* (making cooperation more likely)
2. Conduct joint fact finding (incl exchange of information) 3. Explore and evaluate options 4. Reach agreement on implementation actions	<ul style="list-style-type: none"> • established to progress the cooperative development of policies) • <i>Changes in top down direction (eg changing government programs and priorities - changing administrations after elections)</i> 	<ul style="list-style-type: none"> • Provision of community resources (eg Information Kit; web site; discussion papers) • <i>Continuation of State government initiatives that provided support to the LARMCC direction (eg IPA recognition of regional approach)</i>
Implementation & Review (Outcomes) 1. Formalise relationships 2. Monitor and evaluate 3. Report back and review 4. Re-evaluate and renegotiate (if required)	<ul style="list-style-type: none"> • Desire for autonomy and control of domestic affairs (eg BSC and BDSC particularly in relation to individual town planning schemes) • Potential lack of resources to implement full suite of action measures (hypothetical) Lack of institutional support for proposed ongoing community engagement initiatives proposed for this phase • <i>Division between community and institutional resources</i> 	<ul style="list-style-type: none"> • Established and agreed policy plan • Proposal existed to implement policies including examination of coordinating mechanism/structure • Opportunities for community involvement in adaptable learning-by-doing activities • Reaching early agreement on formalised arrangement for implementation aspects • <i>Community access to technology</i> • <i>Continued higher level support and guidance (eg from State and other regional initiatives)</i>

* Based on Yaffee (1998)

NOTE: Above the line comments = internal forces, and below the line comments (*italics*) = external forces.

The major centrifugal forces that were at play in the Logan-Albert case study that tended to make cooperation less likely included the local authorities' overwhelming desire to retain their autonomy and control over their domestic affairs which led to their subsequent reluctance to delegate authority to the cooperative organisation that they has formed. Other observed centrifugal forces of significance included: a lack of precedence and confidence in the process; unstable membership leading to changing direction and loss of momentum; and limited resources and inadequate processes for securing resources. These negative centrifugal forces were compounded by the existence of external forces, namely a lack of clear and consistent higher order government guidance and direction.

In contrast, the major centripetal forces that were observed to facilitate cooperation included: strong and committed political and professional leadership and sponsorship; stable committee membership; successful attempts at conflict management; successful early cooperative exercises which laid a foundation for the building of trust and confidence in the process; and a broadening of the partnership and a widening of the cooperative net. Positive external centripetal forces included peer pressure and growing community support for the initiative; positive examples set by overarching regional initiatives; and clear guidance and support from the State government.

The preceding examination of centrifugal and centripetal forces has demonstrated that whilst there are many forces promoting or inhibiting cooperation, the expression of the resulting cooperative behaviour can take many forms. For example Yaffee sees the actions of coordination and collaboration as subsets of cooperation. These are important distinctions to make in attempts to understand the nature of cooperative effort (see Section 4.1). Inclusive of this position, Yaffee has defined a set of cooperative behaviours on the basis of the forces that promote or hinder cooperation see Section 4.1.1 and Table 4.1. The following examples drawn from the Logan-Albert case study experience illustrates this behaviour.

Table 9.7: Logan-Albert Examples of Cooperative Behaviour

Behaviour Type	Definition	Logan-Albert Example
Awareness	Cognisant of other's interests and actions	<ul style="list-style-type: none"> • LCCs town planning decisions re sand and gravel extraction - acknowledged it as a regional/catchment issue • LCCs early attempt to devise a flood/fill policy
Communication	Talking about goals and objectives	<ul style="list-style-type: none"> • Regular meetings of LARMCC, LARTSG and LARCCC • Reference to initiative in public documents • Community River Search Workshops and Forums • Logan River Week activities and publicity • Web site
Coordination	Action by one party consistent with, or supportive of others	<ul style="list-style-type: none"> • Joint opposition the Davis Gelatine proposal • Attempts at consistent attention in Strategic Plans for Key Management Issues
Collaboration	Active partnership sharing resources	<ul style="list-style-type: none"> • Joint production of flood/fill policy • Joint sand and gravel extraction studies • Joint funding of Teacher's Network • Joint policy development

Based on Yaffee (1998)

Not only were the centripetal forces able to overcome the centrifugal forces to facilitate cooperative activity, but the resultant behaviour was openly manifested in a variety of very public ways as the examples in Table 9.7 indicate. As has been noted, (see Figure 8.22), these joint efforts of the partners in the Logan-Albert initiative were approximating collaborative effort at the end of the case study review period in 1999. To this end, Gray (1989: 14) has noted that “the outcomes of collaboration is a weaving together of multiple and diverse viewpoints into a mosaic replete with new insights and directions for action agreed on by all stakeholders”.

c. Community engagement

It has been demonstrated that the catchment community contained key stakeholders who were important to the success of this cooperative planning initiative. Their involvement has been discussed in detail in previous sections (see Sections 8.3.4, 8.4.3b and 8.4.4c in particular). These discussions illustrate the tentative approach that the members of the LARMCC initially took in relation to their engaging the catchment community in a full participatory process as an integral part of the cooperative planning initiative. Perhaps the greatest opportunity for action learning for the individual and corporate members of the LARMCC has been in this area of community engagement.

Support for community engagement in traditional planning exercises has been a growing element of planning practice for some time. In this regard, Bowman & Hampton (1983: 18) argue that "... involving the community in cooperation with existing authorities (particularly land use planning) will increase efficiency (*noting that*) community action may involve amateurs more closely in planning and policy making as an empowering experience, people who participate grow in self respect and self confidence and learn by doing". However, it has by-and-large been mainly applied in planning circles at the local level and more commonly in urban areas where the bulk of traditional planning has been practiced.

In defense of the LARMCCs original concerns and tentative approach to closer community engagement, Bowman & Hampton provide some insight into this dilemma when they argue a contrary view to the effect that functional efficiency may in fact be lost to a welter of competing group interests. They also point out that consulting and co-opting community groups may in fact be an attempt by the incumbent elites to draw the teeth of potential opponents. To Bowman & Hampton, there is ample scope for manipulation and for tyrannous majorities. They conclude by questioning the effectiveness of grassroots activism on the local scene in terms of creating significant social change. These points of view also account for the LARMCC member's concerns regarding the involvement in legitimate community participation activities of elected officials and people seeking elected office (previously discussed in Section 8.4.1a). This concern goes to the heart of their problems with the State government's ICM program that provided for the establishment of catchment communities. Their difficulties lay in the role of local government in this process. In the first instance, the Guidelines for the establishment of these CCCs made provision for local councillors to be appointed to these committees but their numbers were not to constitute more than 25% of the committee. These Guidelines went on to stipulated that a councillor could only participate as an individual and not as an official representative of their council (Queensland State Government, 1994). Other major concerns of local government included the questions of the representation and standing of CCC members and their authority to determine policy, with potential implications for council's statutory responsibilities such as their town planning schemes.

The Institute of Participatory Planning has articulated a guide that for all intent and purposes can be consider as best practice for public participation in government (Syme, in Munro-Clark, 1992). The features that they consider are important in the conduct of an adequate public involvement program are identified below along with commentary on examples from experiences of the Logan-Albert initiative.

**Institute of Participatory Planning
Guidelines**

- 1. Public participation process should be agreed between the agency and participants**
- 2. Public participation should start early in the decision making process**
- 3. Objectives of public participation need to be clearly stated**
- 4. People need to be aware of the level of power being offered**
- 5. Efforts should be made by the agency to identify all interested parties**
- 6. Information should be freely available to all participants**
- 7. Participants should know how their submissions will be processed**

Logan-Albert Experience

Done on both occasions prior to establishing the two LARCCCs. Problem was identifying all relevant stakeholders and getting them to preliminary meetings. Some groups chose not to become involved at that stage.

This was the intention (see original proposals - Section 8.3.4). Political reservations and lack of resources prevented this occurring in a timely manner.

This was done at preliminary meetings and worked up with LARCCCs once established. Political concerns tended to constrain the further development of these objectives.

In the case of the first LRCCC this was not well articulated. One member resigned in disappointment after learning of the low level of power at his disposal. In the case of the second LARCCC, all members were acutely aware of this and pressed for greater representation on the LARMCC beyond the original one member.

A prime concern of the members of the LARMCC (political sensitivities were paramount). Formal stakeholder analysis procedures were developed for this initiative. Procedures fully documented in Low Choy & Davies (1997).

LARCCC members provided with all reports from the research and planning process. Given access to web site. Individual members also drew from council and state agency sources (via LARTSG).

LRCCC members not clear on how their input was dealt with - some confusion in this regard. Attempts to clarify in second LARCCC but members had no real appreciation. A concern for future cooperative planning exercises.

8. Where appropriate, (eg travel) costs for participants should be reimbursed

Due to size of catchment and desire to share the travel costs and inconvenience around, LARCCCs decided to meet at different locations throughout the catchment. Significant travel (and administration) costs therefore incurred. Became a problem for first LRCCC. Local authorities reluctant to get involved in this issue. Largely unresolved.

Additional Guidelines

9. The Community's environmental values must be sought

This was established at the earliest opportunity - First Community River Search Workshop - see Appendix 8.5. Further development required to update, clarify and fine tune.

10. Equitable participation by all legitimate stakeholders - requires the establishment of partnerships

Outside of the LARMCC and the LARCCC, a broad based partnership was not achieved during the review period of the Logan-Albert initiative.

11. Planning areas must be based on "communities of interest"

Became a major challenge. First to get LARCCC members to focus and stay focussed on the whole catchment. Secondly the elected members of the LARMCC took some time to become catchment focussed as opposed to giving emphasis to their local authority area. The whole catchment (3740 sq kms) as a "community of interest" was and is a difficult concept for this exercise.

12. Participation should be based on community participation carrying real responsibility

Both LARCCCs actively sought guidance during their formative phase. In time both committees developed their own meeting routines, rules and program of events. Whilst the elected members of the LARMCC had reservations, LARCCC members were free to develop their own agendas. However greater freedom of action for the LARCCC was not developed any further by the conclusion of the review period.

The assessment of the Logan-Albert experience against best practice in the form of these Institute of Participatory Planning guidelines reconfirms the conclusion that efforts of the LARMCC at community engagement and public participation were initially patchy and tentative. Whilst there were clearly good intentions in this regard right from the outset of the initiative, there was much reluctance on the part of the LARMCCs political members to extend the level of community participation beyond the level that existed in their respective local authority. This had the effect of reducing the exercise to the lowest common denominator. Ignorance of the potential benefits of greater community engagement, lack of precedence, and

an overall lack of confidence from a political-point-view all contributed to this initial outcome. As previously noted, this situation did improve with time, especially in light of the monitoring and review of the first LARCCC and the attempts to redress its shortcomings in the establishment of the second LARCCC. It was clearly a 'learn as you go' process and it provides useful examples of the benefits of an adaptive management framework as part of the plan implementation phase.

The breadth of community engagement can be gauged from the variety of engagement forms that were implemented, ranging from special one-off events including: Logan River week activities; Forums and River Search conferences; to intermittent engagement through planning consultation exercises; to ongoing engagement through electronic means such as the Logan-Albert web site; to membership on formal structures such as the LARCCC. A further appreciation of the levels of community engagement that were achieved can be seen from the membership of the LARCCC. Both were reasonably successful in achieving broad based community representation for their membership, including: riverside residents; student and youth representatives; commercial, conservation and recreation/tourism interests; and rural interest (see Section 8.4.3b).

d. Contributing to shared capital

The valuable role that collaborative and cooperative planning activity performs in the generation of social and intellectual capital for the participating community has previously been noted and discussed (Ostrom, 1990; Healey, 1997) - see Section 5.3.4a. This is also Margerum's (1999a,c) 'shared capital', comprising intellectual, social and political capital. In the Logan-Albert case study, these cooperative activities involving the community took many forms including: the establishment of a CCC; a teacher's Network; River Search workshops; river forums; a dedicated Logan River week; river carnivals; an annual school's congress for primary and secondary schools; school competitions and specials school river days; web interaction activities; and information and awareness displays in public spaces such as major shopping centres. Newspaper articles were favourable towards the conduct of all of these activities and they were well supported by the local catchment community. There were no known negative comments or reactions to these activities. Besides strengthening the local communities through this generation of social capital, they also resulted in the expansion of networks for further collaboration and the building of trust amongst the participants. In fact in cases such as the Logan and Albert Rivers Catchment Teachers Network (LARCTN), it led directly to the establishment of new groups and networks.

A number of authors have speculated on the increasing influence that technological developments, particularly in the IT area, will have on basic cooperative undertakings such as

community participation (Williams, 1985; Toffler and Toffler, 1993 and 1994; Tsakalos 1995; Hall 1998; Ellyard, 1998). To this end, some minor in-roads into this area have been made in the Logan-Albert initiative with the establishment of the project's interactive web site. This is a recent initiative that has not been able to be evaluated at this time. However, it is potentially fertile ground for further development and evaluation. This is particularly the case if Castells and Hall's (1996: 477) claims are accepted, where they note that "the informational economy seems to be characterised by new organisational forms. Horizontal networks substitute for vertical bureaucracies as the most productive form of organisation and management". These initiatives may also compliment the Tofflers' (1994: 20) concept of the 'electronic cottage' (see Section 1.4.3a) thus contribution to the future development of social capital in fundamentally vastly different ways that hitherto imagined.

e. Achievements in the Cooperative Theme

In view of the previous conclusions from the analysis of cooperative planning activities for the Logan -Albert initiative, it is perhaps timely to return to the working definition of *cooperation* that was originally coined for the purposes of this study in Section 4.1.1. A first order review of this original working definition was previously completed in Section 8.7.1. It concluded that there was consistent evidence that all of the pertinent attributes of this working definition (*highlighted*) were present throughout the case study review period and associated with all components and phases of the L-A CPM.

Cooperation is a demonstration of corporate behaviour that involves a completely voluntary agreement between two or more partners, to work together or to combine their efforts on the basis of equal authority, within a select timeframe, in pursuit of an agreed aim, and usually within a conflict-free cooperative working environment, whilst retaining autonomy and freedom to pursue their own individual goals. This may lead to a specific version of voluntary coordinated or collaborative action consistent with the attributes of cooperation.

Section 4.1.1

The conclusions of this section provide additional evidence to reconfirm and further validate this working definition of *cooperation*. Checks of the principal attributes of cooperation that comprise this definition and were outlined in Table 4.2 (Section 4.1.1) confirm that all were associated with the Logan-Albert initiative, especially during its formative years. Clearly, the local authorities of the Logan -Albert catchment have acted in a voluntarily and self-selecting corporate manner to jointly participate in a range of cooperative endeavours. To this end they have shared resources, experiences and authority in a mainly conflict-free working environment. They however have retained their autonomy and freedom of action to ultimately decide their own courses of action in response to the jointly derived outcomes from their cooperative effort.

It has also been demonstrated that this cooperative behaviour has led to voluntary forms of collaborative and coordinated outcomes.

Indicative of this commitment to cooperative action is LCCs Corporate Plan that promotes a strategic intent of 'regional cooperation'. It states "the strategic direction to be adopted is one of positive involvement in regional representative bodies through a **strategy** of actively seeking dialogue and agreement with neighbouring Councils and regional organisations on questions of significance to Logan" (LCC, 1995: 8).

The review has shown that Yaffee's (1998) self-interest motives played an important role during the Formative Phase in initially influencing individual local authorities to commence cooperation. The previous evaluation of the Logan-Albert initiative (see Chapter 8) has demonstrated that the cooperative undertakings and achievements associated with the L-A CMP do conform to the trends and expectations of the generic CPM. It has also been demonstrated that this generic model can be extended and enhanced in the light of the Logan-Albert experience. The success of the cooperative initiative in each of the six phases of the L-A CPM demonstrated that there were sufficient centripetal forces to overcome the negative influences of the centrifugal forces, with the resultant behaviour being openly manifested in a variety of very public ways. It was also noted that the joint efforts of the partners in the initiative were approximating collaborative effort at the end of the case study review period in 1999.

It has been demonstrated that the nature and level of cooperation changed over the duration of the review period. The shift in the position of the Logan-Albert initiative along the integrated cooperative management continuum from a 1989 position of minimal cooperation to a medium position in 1999 which displayed some of the characteristics of a collaborative effort was demonstrated (see Figure 8.22). This evidence supports the contention that as more cooperative undertakings were successfully completed, mutual trust was built up between the individual and corporate partners, and confidence in the cooperative venture grew. This was especially the case once it was demonstrated that the initiative did not represent a threat to local government compared to other regional scale approaches and that local government had a high degree of control over the process. Mutual trust between participating local authorities was also increased through the provision of a forum to address historical cleavages between rural shires and their urban counterparts. As this initiative established cooperation and coordination through horizontal links (between local government) and vertical links (between local, state and federal governments), it also increased the level of trust between these levels of government, all of who were operating within the same catchment.

Elected representatives on the LARMCC were also influenced by positive feedback from members of their local communities who had positive experiences with the public participation process as it evolved throughout the life of the cooperative initiative. Conversely, those members of the community who felt alienated by the process or who felt threatened by the cooperative process and its associated activities took the opposite stance which on a small number of occasions resulted in conflict situations that required attention.

Evidence of this 'learn as you go' process supports the conclusion of the utility of adaptive management to the cooperative planning process, especially the opportunities for the plan implementation phase. It demonstrated that evolving community engagement initiatives could lead to institutional learning outcomes (under adaptive management arrangements), that in the case of the Logan-Albert initiative, resulted in the increased effectiveness of management outcomes as a result of harnessing the collective knowledge, skills and comparative advantages of the stakeholders. This in turn led to improved levels of commitment to implement the collective decisions and the effective sharing of management responsibilities which thus strengthening the bonds between the cooperating partners to the agreement. This level of cooperation had the effect of increasing the understanding and knowledge among participants of the views and positions of others, thus minimising potential conflict and the need for conflict resolution. When it had to, the initiative demonstrated the ability to function as a dispute resolution and dispute management forum.

After a faltering start, a successful degree of community engagement was achieved through the cooperative initiative that saw a broad range of participatory opportunities established for a variety of commitments from formal continuous engagements to informal one-off engagements. The range of backgrounds of the individuals and organisations that became involved in the cooperative activities including the membership of the LARCCC provides a further appreciation of the levels of community engagement that can be achieved. It was also demonstrated that the process did lead to the enhancement of existing networks and to the establishment of new ones within the catchment and beyond. These circumstances provide some indication of the potential and valuable role that collaborative and cooperative planning activity performs in the generation of social and intellectual capital for a participating community.

These initiatives led to the development of a sense of involvement, ownership, and belonging by the participating members, especially those from the non-government sector. It was a process that commenced to make a contribution to a more democratic and participatory society at the regional and local levels.

The experience of the Logan-Albert initiative has demonstrated that local government, the community and other landscape management agencies can embrace cooperative planning approaches to landscape management through the adaptation of existing planning frameworks and arrangements. The conclusions provide clarification that *voluntary cooperation amongst local authorities within a river catchment is possible for the purposes of environmental management and planning at the regional scale.*

However, this case study has shown that local government has to be convinced of the benefits of such initiatives and be reassured that there will not be any loss of their autonomy in the process. As the Logan-Albert experience has demonstrated, this may take a considerable amount of time, patience and consistent engagement.

9.2 EVALUATION OF ASSOCIATED DIMENSIONS TO THE PARADIGM SHIFT

This section provides additional evaluation of the thesis proposition by examining some associated dimensions to the paradigm shift. This further examination of the Logan-Albert initiative seeks to address additional elements of research interest through the identification of some supplementary lessons that were learnt in relation to these associated dimensions. These additional elements are closely associated with the research themes and enhance our understanding of the research question. In particular, this section seeks to understand how these elements were affected by the case study practice as it moved towards the convergent paradigm shifts in the practice of landscape management that was noted in the previous chapter.

Consistent with the previous analysis, this section examines a selected number of the shifts in practice that have been observed in relations to the development of the Logan-Albert initiative from its early 1989 practices to its 1999 developments at the conclusion of this review period.

These additional elements include the influences that the Logan-Albert cooperative initiative may have had on: addressing key sustainability issues; professional planning practice and the evolving role of the planner in contemporary planning; and local government landscape management practice.

9.2.1 Addressing Key Sustainability Issues

It was previously noted (see Section 1.5.1) that there was an overriding consensus that sustainability strategies should be implemented directly through regional and local planning. This was supported by the outcomes of the 1992 Earth Summit and subsequent initiatives. It was also argued that further considerations need to be given to whether the conservation and development imperatives can be linked within a planning process operating within a sustainable

development paradigm. An appreciation of the nature and the elements of the sustainable development paradigm of relevance to local government can be gauged from the range of acknowledged key sustainability issues that have previously been discussed.

A number of key issues considered critical to the improvement of the state of Australia's environment were identified by the SoE Advisory Committee in their 1996 State of the Environment Report (see Section 1.3.1 and Appendix 1.1). This listing also included assessed key threats to sustainability. Previous discussion has noted the growing recognition that a cooperative planning approach can have particular application at regional scale, as a mechanism for contributing to the achievement of sustainable development goals. To this end, this section reports on a three level assessment of the appropriateness of an approach that adopts a cooperative planning paradigm applied at regional scale to addressing these key issues and threats to sustainability in the Australian context. It utilises the experience of the Logan-Albert initiative and its applied L-A CPM to complete this assessment.

The first level of assessment was in terms of the applicability of the recognised key SoE issues to the Logan-Albert situation. Due to its location, geography and environmental attributes and their condition, the case study had very little relationship with a number of these issues. In other instances there was only a partial relationship between the key SoE issue and the case study area. This first order assessment is indicated on Appendix 9.1.

The next level of assessment used the outcomes from the first level assessment to identify the appropriateness of the L-A CPM for addressing these key SoE issues and threats to sustainability (see Column 3, Appendix 9.1). Based on the Logan-Albert experience, this was done in terms of whether it was considered that the L-A CPM was:

- an appropriate approach (ie the L-A CPM could have a direct level of effectiveness);
- of marginal appropriateness (ie an indirect level of effectiveness); or
- not appropriate at all.

The final level of assessment examined the treatment of relevant SoE key issues by a range of mechanisms within the overall Logan-Albert initiative. It identified the various occasions when recognition and treatment was given to these SoE issues within the cooperative planning exercise. This was done by identifying whether the key issues were addressed in any of the five main elements of the cooperative planning, namely:

1. the public manager's priority key issues list (derived from the Delphi Study);
2. the community's priority key issues (derived from Community workshops);
3. coverage by the objectives of the cooperative planning exercise undertaken by the LARMCC;

4. coverage within the Discussion Papers; and/or
5. coverage in the emergent catchment wide management policies.

This three-fold assessment of planning and management initiatives for the Logan-Albert initiative (right hand column of Appendix 9.1) provides an indication of the degree of attention that the relevant key SoE issues received in the course of the cooperative planning exercise. The maximum attention included the initial recognition of the key management issues for the catchment by the partners to the initiative through to policy development (ie 'a' to 'e' inclusive). Where this full suite of attention occurred there was a high degree of alignment with the high priority Logan-Albert issues (ie Band 1 from the Delphi Study and Rank 1 to 5 of the Community Priority list). Generally they embraced the biodiversity issues including those associated with the broader ecological features of the landscape such as wetlands, together with protected areas, and water quality issues. These were issues towards which policy development was clearly heading within the Logan-Albert initiative as Figure 8.17 indicates.

Interestingly, tourism that accorded with the SoE priorities in the natural and cultural heritage group of issues, also received the full attention through to policy development in the Logan-Albert initiative. This was despite its low ranking for management attention in the Delphi study and the Community Priority list (see Appendix 8.5). The LARMCC, which directed the topics for policy development, clearly saw a potentially significant link between future tourism development and the ESAs of the Logan floodplain and estuary – the most likely areas for future tourism proposals. These ESA issues had all been ranked highly as previously noted. A further explanation stems from the earlier sensitising of the LARMCC to the potential political risks associated with these forms of development through a number of failed development applications to individual local authorities in the estuary region.

The SoE grouping of Land Resources, particularly the traditional rural land uses of agriculture, rangeland and cropping lands, were a further area of reasonable alignment with key Logan-Albert issues. Whilst the Logan-Albert initiative had not reached the stage of an agreed policy to address these issues, the approval for the release of the Discussion Papers provided sufficient indications that this was a matter of time. As previously noted, this was a significant milestone in the history of the cooperative venture as it demonstrated the level of corporate maturity that the initiative and its partners had reached by this time. It demonstrated that they were prepared to take a whole catchment view of issues, challenges and management options, potentially to the point where it may eventually require some local authorities to adjust their individual policies to align with the overarching catchment policy.

The agreement to allow these issues to be discussed and management options canvassed in the Discussion Papers was proof that the original fears of the rural based local authorities from the middle and upper reaches were also beginning to break down. It is conceivable that in time and with further consultation, policy development for the management of these landscapes would have eventuated within the Logan-Albert initiative. The need for some proactive form of management of these lands has been recognised by a number of stakeholders but because these landscapes are typically outside the direct statutory control of local government (see Section 7.2.5 and Figure 7.3), a cooperative approach is essential. Such approaches would also have to explore the further application of existing voluntary and non-regulatory planning management tools (eg Voluntary Industry Codes of Practice for agricultural enterprises).

The appropriateness of the L-A CPM to other selected key SoE issues is noted in relation to the 'systems perspective' call by the SoEAC and other similar approaches including the Biodiversity sub issue of integrated ecosystem-based management of natural resources. The need for an integrated approach that addresses key issues in a holistic manner was a consistent theme throughout the cooperative planning exercise especially within the context of the river catchment.

A significant SoE key issue that received minimal attention in the Logan-Albert cooperative planning exercise was the issue of 'land clearance' which appears twice amongst the SoEACs listing (see Appendix 9.1). Whilst it was covered as a discussion point in the Discussion Papers, it was not considered nor did it rate a mention in any other initiative, especially the community's priority list of key management issues. In many respects this is not surprising as the case study area has a long history of European settlement resulting in extensive areas previously cleared for agricultural activity and relatively smaller property sizes (see geographic description of case study area in Section 7.2.1 and Appendix 7.1). Generally speaking, the issue of land clearance has normally been focused towards the more rural and remote portions of the State. In view of the tree protection local laws and policies that a number of the urban local authorities had in place, it is puzzling that the issue of land clearance did not register in the public manager's responses to the Delphi Study.

This review of the degree of attention to key SoE issues has provided an overview of how the Logan-Albert initiative addressed key sustainability issues. There was a reasonably high degree of alignment between the high order-high priority issues. This demonstrated that the landscape managers and the community were aware of the key issues, that they could accept them as issues and challenges present in their catchment and that there was a need for the development of management policies to address these issues on a whole catchment basis. The Discussion Papers that were release for public scrutiny acknowledged that these goals would require

improved databases, better understanding of the issues and their consequences and the building of greater confidence and trust in the planning process. All of which requires time, patience and resources.

9.2.2 Influencing Professional Planning Practice

a. Evolving role of the planner

Many authors have argued that the role of the contemporary planner operating within the emergent planning paradigms has changed considerably (Alexander, 1992; Campbell, 1996; Forester, 1996 & 1999; Selman, 2000; Taylor, 2000). The contemporary planner must now function in a variety of ways, many new and certainly many that they were not formally trained to undertake. Forester (1996: 254) holds that “planners have to learn how to make their arguments under systematically skewed conditions of access, voice, power and authority”. The issues related to these new and changing roles of the professional planner have been previously canvassed in Sections 5.2, 5.3.3c and 5.3.4b. Table 9.8 provides examples drawn from the Logan-Albert experience to illustrate these emergent roles for planners.

Table 9.8: Comparison of the Logan-Albert Experience with the Emergent Roles of the Environmental Planner

Emergent Roles of Contemporary Environmental Planner	Facilitator's Logan-Albert Experience (including Planning Team)
Adviser - provides professional and technical advice as required	Provided policy and technical advice formally and informally to LARMCC and individual councils. Also provided advice to LARCCC.
Negotiator - has many negotiation and liaison skills	Required to negotiate and liaise with government agencies, local authorities, community groups, business interests.
Facilitator - experienced in community consultation and liaison	Major task became the facilitation of the cooperative process mainly through the LARMCC framework. Included the facilitation of joint learning. Undertook stakeholder analysis and facilitated the establishment of both CCCs. Facilitated Workshops and Forums.
Mediator (Bridge builder) – management and resolution of conflict	Mediated conflict situations internally within LARMCC on the few occasions they arose. Mediated at River Forums.
Communicator – can interact with policy and commercial interests	Required to communicate proposals etc to diverse range of stakeholders (eg farmers and agriculturalists in catchment). Also briefed State agencies, SouthROC, individual councils and business and community groups regularly.
Information provider – often has access to relevant information	Provided data and other technical information from research to member local authorities of

Emergent Roles of Contemporary Environmental Planner	Facilitator's Logan-Albert Experience (including Planning Team)
	LARMCC. Web site concept and development. Provided data to community groups and Teacher's Network
Coach (educator) – inform, educate and assist decision-makers with new and updated knowledge	Conducted formal (eg workshops) and informal training, information sharing and education sessions for elected and public officials and community. Facilitated the joint learning process.
Entrepreneur - promotion of creative technical, architectural and institutional solutions	Initiated early cooperative exercises eg Logan River Week, brochures, logo etc.
Translator/ Technician - across disciplines (conceptual and empirical levels)	Interpreted (or arranged) scientific data and reports. Developed TOR for specific catchment technical consultancies. Provided interpretation of technical data to LARCCC.
Coordinator - arranges the procedures for decision-making	Brought together the elements for collective decision making and bargaining within the LARMCC framework.
Political and institutional designer - of political and institutional spaces for collaborative and deliberative interaction and learning	Assisted in the design and establishment of meeting processes, review procedures and institutional spaces for LARMCC
Broker - help shape new decision-making structure (provides credibility)	Assisted in the design and establishment of the LARMCC, LARTSG & LARCCC.
Advocate - promotes the cause	Required to 'sell' the initiative particularly with BSC and some state agencies, and to the community generally. Also advocated the concept in professional and wider circles. See also comments for Spokesperson.
Mobiliser - assembles resources	Organised and coordinated all major functions for the initiative (eg Logan River Week and Community Workshops).
Administrator - provides program and project administration	Managed the program on behalf of the LARMCC (and LARTSG) including budget. POC for the program.
Spokesperson - acts for the group	Represented the LARMCC. Media contact. Became the 'public face' for the initiative (continuity person)
'Guerrilla' ¹	To a degree, functioned in this capacity between presentation of original 1985 <i>Watercourse Management Strategy</i> and establishment of LRMCC in 1989. Assisted by LCC City Planner.

Based on: Campbell (1996), Forester (1999), and Selman (2000)

In a previous discussion on potential roles for planners in the sustainable development debate, Campbell (1996) acknowledged that there were basically two distinct strategic positions that they could take. In the first option he argues that planners positioned outside of the conflict can act as independent, non-aligned mediators. By comparison, planners in the second option

¹ Similar to informal collegia with contacts inside (rebel bureaucrats) and outside (maverick academics) the system necessary to unlock institutional gridlock (Holling, 1995).

become totally involved in the conflict and promote their own visions of sustainable development in an advocacy role. Consequently, they should always be required to clearly identify their loyalties and role in any such conflict. This dilemma was previously canvassed in Section 5.2.

In addition to these emergent roles of the planner (facilitator), the normal range of traditional planning tasks was also carried out. Specific examples included:

- assisting the management group develop a Vision Statement;
- deriving an common set of prioritised issues and problems for collective attention;
- developing a planning methodology for the cooperative planning exercise;
- devising a procedural pathway for the planning studies;
- developing strategies to facilitate the partnership to focus on the whole catchment;
- data collection and collation tasks;
- research on key issues and supporting aspects for the planning studies;
- researching and writing Discussion Papers;
- liaison with stakeholders in the planning process;
- identifying a program of whole catchment activities to promote catchment initiatives;
- developing policy options;
- developing and proposing whole of catchment policies and strategies; and
- developing an action plan and implementation strategy.

As the initiative progressed so too did the tasks undertaken by the researcher particularly in this evolving facilitation role. The Logan-Albert experience confirmed the absolute need for planners to possess additional skills for the facilitation role previously noted (see Section 5.3.3c). These skills included expertise in argumentation, use of language and persuasion, and sensitivity to the needs of different community groups (Evans and Rydin, 1997). The case study experience has confirmed that these skills are essential in order to deal with Forester's (1996) 'issues of passion' and ideas of the community. These additional skills extended to include the provision of a leadership role, especially in the area of technical and professional advice to elected officials and the community on planning and management matters. To this end, future cooperative planning and management ventures require a review of the role of the planner that is now focused on a technical facilitation role as the Logan-Albert experience has shown.

From an analysis of the previously identified emergent roles for planners, a potential list of desirable skills and attributes can be drawn up. They may include: multidisciplinary skills; coordination skills; scientific and technical competence; negotiation and mediation skills, facilitation skills; diplomatic skills; communication skills (especially verbal); creative skills; entrepreneurial skills; administration skills; and politically savvy. If future planners have to

operate in non-partisanship and apolitical modes they will have to continue to demonstrate their complete impartiality and ethical awareness.

Taylor (2000) has also argued that as planners are now required to work in new dimensions they will require a whole set of different skills see Section 5.3.4b. The Logan-Albert experience has confirmed these contentions of Taylor when it was demonstrated that there is now a different dimension to the facilitator/broker role expected of planners. In cross border endeavours, planners are required to function horizontally in order to: stimulate the exchange of knowledge across boundaries; make connections between potential allies across boundaries; stimulate community-based audits; and encourage joint learning.

Thus it is becoming evident that our educational institutions and their education programs must be redesigned to produce a new generation of environmental planners capable of undertaking the range of roles previously outlined, with the necessary skills and attributes identified. These newly identified skills will give them the capability of effecting these necessary changes to the profession, the bureaucracies and the planning systems through which decisions are made. Many of these initiatives can be expected to have implications for planning education and they need to be incorporated into the evolving curriculum of planning education.

b. Evolving Trends in Planning Education

Environmental planning education is a relatively recent arrival to the traditional education scene and it comes with some history and 'baggage' that impacts on its current acceptance within the field. To date, environmental studies, planning and management has been taught as a separate, specialty field (Martin and Beatley, 1993; McDonald, 1996). However, sustainability, environment and development issues, resource management, waste management, cultural issues, ethical issues, etc are becoming central issues for planners (Colman, 1993; Martin and Beatley, 1993). To deal with the complexity of these issues and the challenges of a rapidly changing world, planning educators are calling for changes to planning education including: increased emphasis on the management of change (Colman, 1993; Harris, 1993; Witherby, 1992); flexibility (Cuthbert, 1994 a&b; Harris, 1993); interdisciplinary collaboration and teamwork, use of project work and real world examples (Colman, 1993; Friedmann and Kuester, 1994; Niebanck, 1992); ability to deal with complex data through use of GIS, predictive models, gaming and simulation (Cunningham and Teather, 1991; Turner, 1998); problem solving and decision-making skills (Brown and Moore, 1989); negotiation, arbitration, conflict resolution and communication skills (Brown and Moore, 1989; Colman, 1993; Forester, 1996); and public involvement and participatory or collaborative planning skills involving the ability to move from the role of "expert" to the role of mediator, catalyst or broker (Colman, 1993; Friedmann and Kuester, 1994; Selin and Chavez, 1995; Forester, 1996).

Evans and Rydin (1997: 63) argue that professional planners will need to address the goals of environmental sustainability along side the more traditional economic and social one. They go on to acknowledge that this will place "new demands on planning education, not so much teaching planners how to predict these impacts but enabling them to know when and where to obtain advice on the nature of such impacts". They go on to raise the question as to whether the education process can deliver a synergy between sustainable development as a philosophical principal and sustainable development as guiding a new process of planning practice.

Hancock (1996) on the other hand, considers that the sustainability debate must acknowledge the imperative for achieving human (and community) development leading to healthy and sustainable communities. As previously discussed, Hancock sees human development dependent on the successful integration of six criteria, namely: community conviviality; environmental viability; economic adequacy; social equity; ecological sustainability; and a livable built environment. Producing future planners capable of embracing and integrating these elements will seriously challenge planning education. This is given additional weight by Forester (1996: 242) who argues that if planners "must regularly be able to negotiate well or fail to have anyone take their ideas seriously, then planning and policy educators should respond accordingly (*with planning theory thus suggesting*) directions for study and training in planning education".

Whilst Brunckhorst (2000) correctly advocates that cooperative trans-disciplinarity must be engendered, not only in science, but also across all land managers, government agencies and citizens as a key part of strategic bioregional planning, there are serious impediments which must first be overcome. For example, Brunckhorst (2000: 46) points out that "people traditionally responsible for policy, law, planning, and infrastructure developments (politicians, bureaucrats, social scientists, lawyers and engineers) generally have little or no training in ecology. Likewise, ecologists tend to be equally ill-equipped to understand social needs, policy, finance or planning. Knowledge is not the main problem: Institutional impediments are a larger barrier to implementation of critically necessary, inter-disciplinary and cross-jurisdictional resource management at regional, continental and global scales". Unfortunately, this 'pigeon-holing' into discipline areas is most evident within traditional universities and within the professions, the very places where these changes must be instigated. These shortcomings have also been confirmed by the Logan-Albert case study review.

c. Other related planning practice matters

On a related matter, it has been previously noted that Taylor (2000) considers that complex systems appear to have the ability to process and store information from a variety of sources

which enables them to learn from experience and generally to adapt to changes in their environment. Communities, as examples of these complex systems, which demonstrate low levels of connectivity and low homogeneity become stagnate if they are unable to adapt. This can also be the case for the organisations that manage the process such as the LARMCC.

In view of the nature of the Logan-Albert organisational structure, especially the management group, the challenge was how to facilitate the process of reflection, evaluation and joint learning? Equally important, it was necessary to identify how to store and retrieve that corporate knowledge and experience thus gained.² The LARMCC was not a conventional organisation in the traditional sense. Under its structural arrangement there was no immediately recognisable central point-of-contact for the initiative nor was there that important and immediate central depository for knowledge and experience. For example, it changed its membership and composition regularly, especially after each local government election. It did not have a secretariat nor a permanent 'home' in the sense of a building or a facility in which meetings were regularly convened, records and data stored, or where the planning team was located for community members to access, (meetings were rotated between member council chambers). However the web site was designed to function as a virtual 'home' for the initiative in many of these respects.

One solution to these challenges lay in the extended role that the Facilitator played in this initiative. For example, the Facilitator and the Planning and Research Team belonged to an academic institution and through its research, teaching and consulting missions it could accommodate these requirements. These undertakings were natural extensions to the main role of the Facilitator as an academic. The effect of this dual role was to provide a natural link between the academic teaching functions and those of the cooperative planning and research requirements of the Logan-Albert initiative. Mention has already been made of the incorporation of tertiary student project work as pragmatic planning exercises into the cooperative planning process with the LARMCC acting as a defacto client - see Section 8.4.4b. In terms of the involvement of the Facilitator in this initiative, it meant that his teaching program could be 'immediately' informed by the action research findings and experiences gained in the collaborative process.

The Logan-Albert initiative has also demonstrated that universities can function as full community based institutions especially in informal teaching and learning modes. The application of web based technology and the sponsoring of the Logan-Albert initiative's web site at the Facilitator's university are prime examples. In this manner universities can act as a positive resource for the community.

² This also becomes a challenge for community consultative committees.

9.2.3 Influencing Local Government Practice

The review period of this study has witnessed a myriad of changes to local government practices. What influence did these changes in the planning and environmental management have on the case study initiative? Alternatively, did the Logan-Albert collective experience change the way in which local authorities individually conducted their business in the management of the catchment landscape? Specifically, how did it influence their decision making for policies, programs, priorities, procedures, the allocation of resources and funding, internal organisation and staffing? This study examines how well the Logan-Albert experience resulted in actions that aligned with contemporary and emergent policy developments for local government practice of a global nature.

a. Aligning with ALGA policies

The ALGA policies that are relevant to the themes of this study were identified and discussed in Section 3.1.5c. The Logan-Albert local authorities through their involvement with the cooperative planning exercise made a contribution to the achievement of these relevant planning, environment and related policies of the ALGA. The extent of that contribution can be gauged from the following comparison of the Logan-Albert achievements with the relevant ALGA policies - see Table 9.9. This represents a total of fifteen policies from the original group of twenty-five (see Appendix 3.1 - Reflection of Research Themes in Selected ALGA Policies).

Table 9.9: Alignment of Logan-Albert Outcomes to ALGA Policies

ALGA Sub Policy/ Policy	Logan-Albert Initiative
<i>The way our communities are planned and developed is a subject which demands involvement of the community and concern, thought action by all spheres of government, (Sub policy 6.1: Community Participation, Policy 6: Planning and Development)</i>	✓
<i>Strategic planning for urban communities must be carried out at a regional level by a partnership of State and Local Governments acting cooperatively with any Commonwealth involvement, (Sub Policy 7.3: Planning and Managing Towns and Cities (part), Policy 7: Urban Affairs)</i>	✓
<i>Local Government acknowledges the value of working collectively and cooperatively on a regional level, based on a community of interests, to realise the full potential and effectiveness of local decision making as part of the wider process of governance of the nation, (Sub Policy 7.10: Collective and Regional Responsibilities, Policy 7: Urban Affairs)</i>	✓
<i>ALGA will encourage the development of regional planning based on ILAP strategy plans by articulating via ALGA, State Associations and Regional Organisations of Councils to local Governments the benefits of integrated strategic planning both local and regional, (Sub Policy 7.19.2 of Sub policy 7.19: Planning Urban Areas, Policy 7: Urban Affairs)</i>	✓

ALGA Sub Policy/ Policy	Logan-Albert Initiative
<i>"The level of regional cooperation amongst Councils is increasing along with the development of regional management strategies and long-term planning", (Introductory statement to Policy 8; Rural Affairs)</i>	✓
<i>Vehicles for regional development must utilise existing or newly established frameworks that are locally driven by key stakeholders, and not by external agendas, (Sub Policy 8.4.4 of Sub Policy 8.4: Regional and Economic Development, Policy 8: Rural Affairs)</i>	✓
<i>Local Government in partnership with State and Commonwealth Governments must play a greater role in achieving sustainable development. Governments must manage their environmental responsibilities effectively but the private sector and community groups must also take responsibility, (Sub Policy 8.5: Natural resource Management, Policy 8: Rural Affairs)</i>	✓
<i>There must be greater collaboration between all spheres of government, non government organisations, and other major players in the development of rural policy, (Sub Policy 8.7.1 of Sub Policy 8.7: Integration, Consultation and Information, Policy 8: Rural Affairs)</i>	✓
<i>Local Government is committed to the integration of environmental issues into Local Government planning, management and operations, (Sub Policy 9.2.2 of Sub Policy 9.2: Role in National Environment Policy, Policy 9: Environment)</i>	✓
<i>Local Government supports ecologically sustainable development as the basis for policy development as provided by the guiding principles, (Sub Policy 9.2.3 of Sub Policy 9.2: Role in National Environment Policy, Policy 9: Environment)</i>	✓
<i>Local Government will collaborate with State and Commonwealth Governments through mechanisms including the Inter-governmental Agreement on the Environment (IGAE) in managing both the natural and built environment, (Sub Policy 9.3: Inter-Government Responsibilities, Policy 9: Environment) including: Local Government together with State and Federal Governments will cooperate to identify parts of the natural and built environment and work together with the community to ensure good management of those environments, (Sub Policy 9.3.1); Mechanisms must be put in place to satisfy the increasing role and responsibility of Local Government to address environment issues, (Sub Policy 9.3.4); and Local Government advocates regional cooperation as a framework for sustainable development, (Sub Policy 9.3.6)</i>	✓
<i>Local Government has an integral role in land management and conservation as a planning authority, land manager, coordinator and facilitator of local activity, (Sub Policy 9.4.1 of Sub Policy 9.4: Natural Environment, Policy 9: Environment)</i>	✓
<i>Local Government and community participation is crucial to the achievement of integrated catchment management and is essential to reform of water resource management, (Sub Policy 9.4.2 (part) of Sub Policy 9.4: Natural Environment, Policy 9: Environment)</i>	✓
<i>Community development requires a partnership between the three spheres of government (Commonwealth, State and Local) and community and other non-government organisations, (Introductory statement to policy 10: Community and economic Development)</i>	✓
<i>Cooperative activity between Local Governments which is best facilitated by voluntary regional groupings is to be encouraged, especially as a counter to the threatened loss of Local Government functions, (Sub Policy 12.2: Regional Organisation, Policy 12: Structure and Management)</i>	✓

Source for Policy statements: ALGA, 1994

KEY: ✓ alignment ✓ partial alignment

The key observations to emerge from this analysis indicate that the Logan-Albert initiative did address the emergent issues associated with the previously discussed paradigm shift in landscape management which by-and-large are also imbedded into these selected ALGA policies that are tabulated above. In particular, they focused on the emergent issues of an integrated approach attempting to incorporate the environmental dimensions into the planning process that embrace the ESD principles that stemmed originally from ALGA being a co-signator to the IGAE. There was a definite strategic focus to the cooperative planning endeavours that addressed issues of regional significance. Lastly, there were also genuine attempts at improved community engagement as well as definite signs of a transition towards a fuller partnership approach inclusive of the catchment community.

There was also clear reinforcement of the local government position that sought to safeguard their autonomy and any loss of local government functions through the promotion of voluntary (cooperative) approaches. These policies also demonstrated emergent strong support for higher levels of community engagement, especially community participation in catchment management. These umbrella policies for the peak local government body in Australia were introduced into LARMCC discussion forums and had the effect of providing higher level guidance and direction and hence afforded a necessary level of confidence to the local authorities in the catchment.

b. Facilitating community involvement and learning

Tinley believes that local government does have a more involved role in catchment management regardless of the mismatch between their artificial administrative boundaries and the natural catchment boundary or bioregion. He notes that the “coincidence of interests and activities emphasises the singular role of the hydrological unit area as the key determinant underpinning all planning and development programs in conservation and development” (Tinley, 1986: 230). However, on a pragmatic note, he also notes that natural, social and cultural resource data is not collected and maintained on a catchment basis, thereby creating a difficult problem for the cooperative planning endeavours. This requires a cooperative effort amongst the local authorities in the catchment in order to fulfil this catchment scale planning requirements. This was only partly achieved in the Logan- Albert case study due to other demands and priorities on the local authorities.

All of the catchment specific studies listed in Appendix 8.9 required the conventional data sets to be reconfigured to accord with the catchment’s geographic boundaries. This task fell to the planning and research team with assistance from the planning staffs of the individual local authorities. This was essential in the case of the production of the initiative’s fact sheets as they

were used to promote the attributes of the LARMCCs area of interest (the catchment), and for the purpose of making available data for community groups and schools.

Bowman (1983: 182) notes a potentially important role that local government can play when she concludes "standing at the intersection of the central bureaucracies and local voluntary organisations, councils can gather together resources from local and state sources to meet local needs; they can become catalysts and supporters for self-help schemes". The post 1993 Corporate Plans³ of Logan-Albert local authorities began to reflect this view. For example, RSCs Corporate Plan contained a commitment in its environmental goal and supporting strategy to "provide information to assist the community appreciate and value our special environment" (RSC, undated: 11). BSC (undated) likewise committed to "encourage and support voluntary organisations which served the community" under its environment goal without specifying the precise nature of that support. These types of initiatives were already being discussed at LARMCC meetings prior to 1993. This intent had earlier been reflected in the Aims of the LARMCC (Section 8.4.1) and the specific study objectives (Section 8.4.5) and the LARMCC clearly saw itself as a link between the State government agencies represented on the LARTSG and the LARCCC. In the case of some larger local authorities (eg LCC), they were eventually able to achieve these information facilitation strategies from their corporate plans, along with the general thrust of their environmental education intents, through the employment of dedicated staff in the form of environmental education officers who started to appear on the local government scene from about the 1997 onwards (see Section 8.4.3c).

c. Staff specialisation

Other staffing initiative that arose from this time included the recognition of local authority responsibilities in strategic planning which had been a statutory requirement since 1980. Many smaller and under resourced local authorities met this requirement through the employment of consultants for specific strategic planning tasks. However, as previously noted, the representation requirements of the local authorities on the LARMCC (and on other ROC and regional forums) began to emphasise the strategic planning nature of that representation. Consequently, during the case study review period, the technical officer representation from local authorities on both the LARMCC and LARTSG gradually changed to strategic planning staff members. What was even more evident during this period was the specific appointment of strategic planners to the permanent council staffs especially the smaller councils such as BDSC and BSC. The longer term outcomes of these staffing initiatives have previously been discussed in relation to the evolving enhancement of the strategic plans of the individual local authorities (see Section 8.4.4d). Further and more recent developments in the area of staff specialisation in

³ Local Authority Corporate Plans became a mandatory requirement as a consequence of the Queensland Government: *Local Government Act 1993*.

the organisation of local authorities related to the emergence of the 'waterways' officer. During 1999, a specially appointed waterways officer for one local authority began to attend LARMCC meetings and activities. In fact there was a suggestion from one council that perhaps their waterways officer should replace the strategic planner on the LARMCC. This possibility raises the original and ongoing debate of the adequacy of response from the planning discipline to emergent environmental challenges and whether allied and other fields of study will duplicate an established element of planning practice through their response. These issues have previously been canvassed in Sections 3.3.3 and 3.3.4.

These observed trends towards the employment of specific environmental officers such as the environmental education officer and the waterways officer may also reflect the move towards greater specialisation of environmental management that is now required, especially at local government level. It also provides further support to Hall's hypothesis associated with his "local government life cycles" previously discussed in Section 8.2.2a and Figure 8.3.

Similar trends to these moves towards greater staff specialisation can also be noticed in relation to the internal organisational restructuring that has occurred in the Logan-Albert local authorities during this period. Contingency theory and organisational ecology can demonstrate the local authority's organisational response to these changing demands and needs of the Logan-Albert initiative. Examples of adaptations to the internal structure of councils to handle these additional or new planning functions can be observed in the formation of strategic planning groups (most councils), environmental management groups with a water focus (most larger councils), and catchment management groups (eg GCCC).

A related consideration concerns the role and influence of professional associations. Minnery (1985) believes that professional associations that express overlapping memberships between organisations may in fact facilitate the establishment of cooperative planning arrangements. This membership coincidence could be at the individual level, as in the case of town planners who are professionally qualified and more-than-likely hold membership to the same professional organisation (eg PIA). Likewise, in the case of the corporate level, the local authority may hold membership in umbrella groups such as the ALGA or the LGAQ. Profession interaction from both of these levels of membership could occur at a whole range of opportunities including professional meetings, conferences, seminars and workshops and-the-like. Both of these levels of overlapping membership existed throughout the Logan-Albert group of local authorities during the review period.

d. Corporate planning and visioning

Early examples of ad hoc attempts at visioning (without public input) and attempts to express a corporate view on matters related to the issues and themes of the Logan-Albert initiative can be gleaned from selected public documents of the member local authority. For example, LCC had earlier appreciated the importance of publicly acknowledging the Logan-Albert initiative and made reference to the initiative and LCCs involvement in it in a number of its initial public documents including its first *Annual Report* (LCC, 1989), in subsequent annual reports, and in its first *Community Services Guide* (LCC, 1990b).

As reported previously, the Logan-Albert cooperative planning exercise moved from its original problem solving focus to a visioning approach at the commencement of its latest policy development initiative in 1997. This presented a number of challenges to local government. The post 1993 mandatory requirement for each local authority to produce a Corporate Plan should have triggered a visioning exercise that ideally included a full community participation undertaking. Unfortunately this has not usually been the case and there were limited opportunities for public input into the early Corporate Plans of local government. In passing it should be noted that the LA21 process can provide a way ahead in this regard but Queensland local authorities have been reluctant to take up LA21 initiatives including community visioning and capacity building (see Section 3.3.4b). Consequently, there have not been any opportunities to coincide visioning exercises and the visioning that was required for the Logan-Albert initiative had to be conducted as a discrete exercise without the opportunity to integrate it with other planning initiatives.

The undertaking of local government visioning exercises, as major components of public participation programs, require more comprehensive and integrated approaches. They should be capable of addressing the requirements of the various planning commitments of councils including Corporate Plans, Strategic Plans as components of statutory plans and any cooperative planning undertaking beyond the boundaries of the individual local government area.

9.3 CONCLUDING EVALUATION

9.3.1 Challenges of the Operational Setting

The review of the Logan-Albert case study has confirmed the initiative as a working example of the CPM that involved a range of cooperative and collaborative planning undertakings. Its structural organisational triad of a management committee, technical support group and community consultative committee exemplify a joint “bottom up-lateral” regional cooperative planning and management model that provided horizontal linkages between local authorities and vertical linkages between the community and two levels of government and their respective

agencies. It was required to function as a cooperative planning and management partnerships between existing management institutions, the community and the private sector in order to collectively identify, then address, the regionally significant environmental management issues within a catchment of mutual interest to the partners.

The CPM process can be an involved plan making exercise as demonstrated by the cooperative planning experience of the Logan-Albert initiative (see Section 8.5 and Figure 8.13). Equally, a cooperative approach to plan implementation is an increasingly demanding and challenging phase as discussed previously (see Section 8.6 and Figures 8.19 and 8.21). It is well accepted that planning occurs within a political environment comprising elected officials who operate within their formal decision-making structures and processes, and a general community who interact in both formal and informal structures and processes of their choosing.

A cooperative approach operating at a regional scale of the type exemplified by the Logan-Albert initiative can experience some additional challenges from the political environment in which the planning process is being undertaken. In the first instance, a cooperative planning approach will experience an increase in both the number of groups and levels of political interest that there will be in the planning initiative. All of these political interests and levels must be engaged in a cooperative planning exercise. In the second instance regional planning undertakings of this nature essentially become as Glasson et al (1997) have claimed - exercises in persuasion (see Section 3.3.2a). The case study review has confirmed that much effort was constantly expended on efforts to encourage the responsible agencies to act in the interest of the region (catchment) consistent with the cooperatively derived policies. Thirdly, and again confirmed by the Logan-Albert experience, traditional regional planning is more politically dependent than most other forms of planning as it lacks a power base and the legitimacy of an underpinning level of governance. It must draw this from the local government level that has sponsored the cooperative regional initiative in the first place. As observed in the case of the Logan-Albert initiative, this is only likely to occur once the participating local authorities had gained sufficient trust in the cooperative process and had become confident that they could control the process and that it would not become a threat to their autonomy.

It has been demonstrated that cooperative planning initiatives of this nature can address a range of key sustainability issues at the regional scale. However, it was also noted that an even longer-term sustainable outcome is possible through the adoption of an adaptable management framework as part of the Plan Implementation Phase of the CPM operating on a continuous planning cycle. A cooperative approach to implementation would incorporate collaborative learning through a learning-by-doing process for the mutual gain of all partners to the cooperative venture.

This operational environment for cooperative planning is overlain by a range of technical requirements from professional and government sources. These can include those of an academic nature such as the emergent landscape management paradigms to specific examples such as Whole Catchment Management (WCM) principles. At the other end of the spectrum there are the professional requirements and guidance from higher levels of government and professional peak bodies such as the ALGA and the PIA.

Thus the challenge becomes how to derive and maintain a cooperative planning process and associated procedures that are consistent with contemporary thinking and capable of achieving the desired environmentally sustainable outcomes from multiple sources of relevance to the research themes. This must be achieved in a manner that is: politically acceptable; owned by the community; participatory and inclusionary; “user friendly” for the community; transparent; equitable; implementable; and responsive to change.

The broad political setting in which this occurs as evidenced from the Logan-Albert experience is illustrated in Figure 9.2. The cooperative planning process adopts the cyclic (continuous) planning model which is characterised by discrete 'plan making' and 'plan implementation' phases (see Figure 8.19 in Section 8.6). The cyclic nature of the planning activities also facilitates the inclusion of an adaptive management approach in which continuous monitoring, evaluation, learning and adaptation of management actions can occur. Hence this joint learning process of adaptive management requires a high degree of constant interaction between all partners (including the community) to the cooperative planning exercise. However, all of these planning activities occur in a political context where they are continually subjected to constant political scrutiny, review and approval/rejection. As the diagram illustrates, this political interaction with the planning activities can occur at any point in the (cyclic) planning process. The Logan-Albert experience has shown that in a cooperative planning undertaking of this form, the nature of linkages and the degree of interaction between the planning process and specific stakeholders and the community-at-large will be entirely at the discretion of the political process and the institutional arrangements and structures that it establishes to undertake the cooperative planning exercise. It can either facilitate or hinder that crucial link for cooperative and participatory planning.

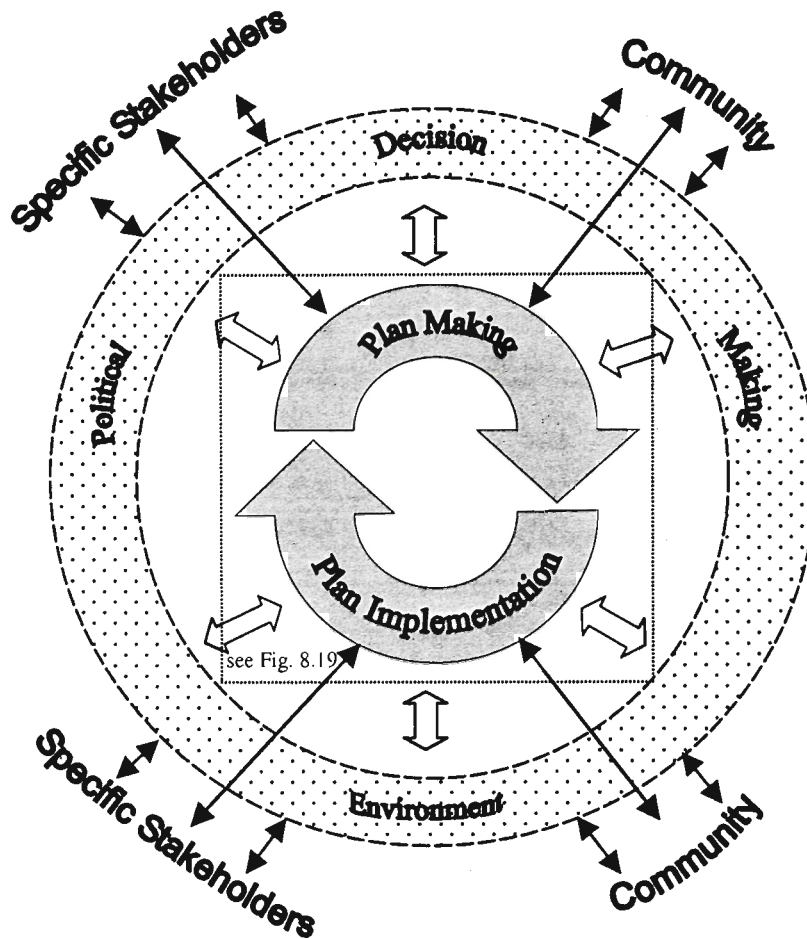


Figure 9.2: Cooperative Planning in a Political Environment

9.3.2 Future Challenges to the Thesis Proposition

The experience of the Logan-Albert initiative has highlighted a number of potential challenges to groups of local authorities in a river catchment wishing to address landscape management issues of regional significance through cooperative initiatives. The major centrifugal forces that were at play during the review period of the Logan-Albert case study that tended to make cooperation less likely have previously been noted (see Section 9.1.3).

It has been shown that the cooperative planning process involves a considerable and constant investment of time, effort and resources essentially during all phases of the CPM. These may not be available or it may simply be a luxury that a stakeholder cannot afford. Some stakeholders in fact may consider the price to pay for cooperation as too high or will be unconvinced that the returns from their investment (political and economic) can be justified. This process is also characterised by long time frames that extend well beyond the normal political election cycle, and where successful outcomes are not immediately obvious. These circumstances require a concerted campaign of support, encouragement and clear guidance from higher levels of government, umbrella bodies such as ALGA, and peak professional institutions

such as the PIA. Peer pressure has also been shown to be an effective mechanism at this level of governance. Other examples of positive centripetal forces that facilitated cooperation includes community support for the initiative and positive examples set by overarching regional initiatives. The existence of these positive centripetal forces is crucial for success bearing in mind that this was a voluntary cooperative venture and individual members were free to disengage at any time of their choosing.

A major operational weakness for local government formed cooperative ventures centres on their institutional arrangements and the degree of authority that characterise their central decision-making forum. In the case of the Logan-Albert initiative, its LARMCC was originally established by the member local authorities without the necessary delegated power that resulted in it acting essentially as a referral agency. These circumstances produced a cumbersome set of approval procedures where each LARMCC political representative had to take all cooperatively derived decisions and proposals back to their respective Councils for final endorsement. This situation stemmed initially from a local government perception that these cooperative arrangements had the potential to impinge on their autonomy and intrude into their domestic affairs. Consequently, this overwhelming desire to safeguard their autonomy and their control over their internal interests led to their reluctance to delegate authority to the cooperative organisation that they has formed. It was later demonstrated that this situation can be countered by a number of positive centripetal forces including in particular, stable committee membership of the central cooperative decision-making group (ie the LARMCC). In the case study, this produced stronger group cohesion amongst the members that led to the building of trust and a growth in confidence in the cooperative process, thus allowing them to reach consensus on a clear and unified policy direction for the catchment. This was supported by other centripetal forces including a secure source and commitment to resource the cooperative venture; successful attempts at conflict management; a number of successful early cooperative exercises and later, a broadening of the partnership and a widening of the cooperative net.

The Logan-Albert experience has conclusively demonstrated the critically important role that political and professional champions play, not just in the establishment of a cooperative venture but also in ensuring its continued operation. Both political and professional patronage and leadership are crucial to success. The process also needs the services of a strong and committed sponsor to provide the essential support base from which the cooperative venture can be launched and maintained. To do this, they will use a range of networks available to them, including political, professional, bureaucratic and institutional networks.

Observations also suggest that initiatives such as the Logan -Albert case study need to be linked to the permanent processes of government in order to retain currency and relevance to the

potential stakeholders including the political decision-makers. In this regard, voluntary cooperative processes operating outside of the normal domain of government structures need some form of standing or legitimacy. In the case of the Logan-Albert initiative, this was achieved when the cooperative process became a sub committee of SouthROC. Without these formal arrangements and connections, the established process of governance will not embrace the cooperatively derived outputs nor will they find their way into the formal decision-making arena. This failure has previously been identified in relation to a number of planning initiatives from allied fields and disciplines such as the LA21 and the ICM programs.

This study has confirmed that successful catchment institutions should be local based, community focused and supported by technical services, agencies and local government (AACM, 1995; Hooper et al, 1999). Further-more, the Logan-Albert experience has confirmed that an institution charged with regional strategic planning and supported by a research arm is essential to provide that integrative and long-term strategic view that is inexorably lost in agencies with a primary management or regulatory function (Holling, 1995).

9.3.3 Summary

The experience of the Logan-Albert initiative has established that **contemporary environmental management issues of regional significance can be identified and managed through cooperative planning efforts based on a natural unit such as a river catchment.** The cooperative process did identify key issues related to the river and its catchment that were of regional significance. They were used to focus attention towards and prioritise the planning and policy development effort. The cooperative effort of the voluntary group of local authorities led to the joint development of policy for these agreed issues of regional significance. There is ample evidence that the Logan-Albert initiative was directly influential in getting greater focus on the river system and on river related issues, particularly in the policies and statutory planning schemes of individual local authorities.

It has also been demonstrated that **local authorities can cooperate to achieve a common set of goals.** For example, it was shown that the LARMCC made a significant contribution to the coordination between participating organisations largely through functioning as an arena for interaction, enabling coordination for formal and informal policies amongst participating organisations, and establishing an ongoing network for information exchange. Examples of regional cooperation by these local planning agencies included the development of joint policy for agreed key management issues and the move towards the joint and coordinated approach to addressing the agreed key management issues in each local authority's strategic plan.

In this latter manner in particular, **they demonstrated that they could exercise their traditional statutory planning responsibilities in this cooperative manner.** This was particularly evident in the explicit attention that all local authorities in the catchment gave to significant environmental management issues such as water quality. In such circumstances of unanimous recognition for policy attention, there is a strong case for a composite catchment wide policy to be developed.

A further consideration in review relates to whether the cooperative initiative led to better decision making. The evidence suggests that it generally led to the better coordination of decision making for the regional scale catchment unit. However, it was still up to individual councils to make decisions within their traditional jurisdictions. There was no agreed formal mechanism to ensure that a collective view prevailed (except peer pressure). However, with the benefit of time for adequate gestation and consolidation within these respective phases L-A CPM initiative, the adaptive learning experiences had sufficient time to take effect and it was in those circumstances that more informed and universally acceptable decisions were reached.

The L-A CPM should not be seen as a model cast in concrete. Instead it should be subjected to continuous review and improvement based on ongoing experience with its implementation phase. Perhaps its most important element is not the catchment wide policies that resulted from its cooperative activities but the evolving partnerships that were derived as a consequence of its application within a Logan-Albert catchment landscape.

10.0 CONCLUSIONS

10.1 GENERAL OVERVIEW OF THE RESEARCH

This study examined the proposition that a voluntary cooperative coalition of local authorities within a river catchment could manage regionally significant environmental issues through traditional planning frameworks.

It has provided additional empirical research into cooperative/collaborative planning and management and extended our understanding of the factors that contribute to the success and failure of these undertakings. It has explored the institutional changes that will support integrated decision-making under these collaborative arrangements. This research was based on the existing body of knowledge in the key areas of collaboration, community engagement and integrated environmental planning and it extended and refined existing models of collaborative planning and management, particularly for key management issues of regional significance. The research has provided a clearer insight into the evolving role of the professional planner and the emergent opportunities for a proactive planning approach to address contemporary environmental challenges at regional scales. The results of this research have implications for planning practice, especially that practiced at local government level, and ultimately, for planning education.

The research centered around a cooperative planning model formed by a group of local authorities within a river catchment. The original cooperative model that was adopted at the commencement of the joint planning exercise bore all of the hallmarks of a minimalist approach to cooperative activity. It was characterised by limited contributions and commitment on the part of the individual participating local authorities with no accountability or authority delegated by them to the core cooperative management group (LARMCC) that they had established. During the front-end of the initiative they retained full authority over the cooperative process and its outcomes. The process essentially centred around an ad hoc committee structure with the collaborating partners self selecting their membership. It functioned purely in an advisory capacity to its member local authorities and to the participating state government agencies. The group appointed an independent Facilitator (a planner) who had the support of a university based planning and research team that stood apart from the existing institutional structures of local and State government agencies.

The cooperative organisation was not bound by any formal agreement, statute or decree and individual members were free to disengage at any time of their choosing. They had low

expectations of the planning and management undertakings especially in the short term. They had no long term expectations or collective vision.

The implementation measures adopted were limited to the sharing of information, providing different perspectives and analyses, and attempts to develop a better understanding of their common theme and area. The major challenge under these arrangements was to use this information in a manner that could infiltrate the member organisations in order to influence their decision-making. However, it was not possible under this level of cooperative arrangement to define an implementation strategy that could address the key issues of concern.

During the course of the cooperative initiative the participants adopted a very cautious approach that involved them taking a series of stepped levels of increased cooperative commitment over the review period. This commenced with the joint agreement to cooperate in a forum to identify and then to discuss matters of common interest. This was later followed by a further agreement to cooperate in joint policy development and then finally, an agreement on a cooperative approach to the implementation of the joint policy. These distinct levels of increased cooperation represent a major departure from the uniform collaboration that is normally assumed with the generic collaborative planning model (CPM).

At the conclusion of the case study review period (1999), the Logan-Albert initiative had moved up the steps of cooperative effort to the point where it now clearly reflected a higher order of cooperative/collaborative effort than at its genesis in 1989. It emerged as a more formal partnership in comparison to its former ad hoc arrangements. It had gained legitimacy as a standing sub-committee of an officially recognised Regional Organisation of Councils (SouthROC) and was consequently fully integrated into the formal regional planning machinery for the wider region (SEQ). This had the effect of legitimising the outcomes of the cooperative planning process, giving them greater standing and acceptance amongst the agencies and groups expected to implement the outcomes. Importantly, the initiative had evolved to a higher order of collaboration through a series of experiments with community engagements that increased the members' trust and confidence in bringing the community into a fuller partnership. This was evident in the second community consultative committee (CCC) that was established with gradually increased, although modest, empowerment and representation on the central management committee.

This shift can be attributed to a process of adaptive management and learning-by-doing that the core membership of the Logan-Albert initiative (namely the LARMCC) experienced during the review period. It was shown that all collaborative participants had benefited from a series of collective learning experiences that subsequently allowed them to adapt their corporate

positions for the common good with confidence. This was evidenced by their stepped albeit cautious approach to a cooperative planning process which eventually led to joint policy development for the catchment. The agreed policy framework comprised an overarching catchment-wide policy that was ready for implementation through a hierarchical framework into the separate statutory planning instruments of each partner council. This required each local authority to take individual responsibility for interpreting the principal policy elements in terms of their particular circumstances and to incorporate these provisions into their individual statutory planning schemes. In this manner, they could retain control of the process and therefore maintain their management autonomy. However, it also meant that the joint catchment-wide policy could be implemented in a coordinated fashion throughout all local authority areas in the catchment. This now placed the initiative well in front of the previous minimalist information exchange function.

The Logan-Albert cooperative planning initiative has been examined in terms of an enhanced cooperative planning model (L-A CPM) that extends the generic CPM by acknowledging two additional and distinct phases. This involved the preliminary demonstration of the need for a cooperative undertaking to potential participants, together with a separate phase to acknowledge the business end of the actual cooperative planning activity itself. The L-A CPM also highlights the importance of the implementation and review phase that incorporates an adaptive management approach.

The review of the Logan-Albert case study has confirmed the initiative as a working example of the CPM that involved a range of cooperative and collaborative planning undertakings. The triad organisational structure of a management committee, technical support group and community consultative committee exemplify a joint “bottom up-lateral” regional cooperative planning and management model. This model provided horizontal linkages between local authorities and vertical linkages between the community and two levels of government and their respective agencies. It needed to function as a cooperative planning and management partnerships between existing management institutions, the community and the private sector in order to collectively identify, then address, the regionally significant environmental management issues within a catchment of mutual interest to the partners. Applying this enhanced CPM across a longitudinal study spanning some eleven years allowed for a detailed insight into the changing circumstances and attitudes to cooperative planning by a number of participants, particularly the main players, the five local authorities comprising the Logan-Albert catchment.

A major advantage of this cooperative planning approach was its utilisation of the existing structures of local government and existing management mechanisms such as the statutory planning system.

10.2 KEY FINDINGS

10.2.1 Overview of Key Findings

The preceding chapters have highlighted a range of new directions and opportunities for cooperative planning amongst local government at the regional level. The most important of these initiatives are outlined below. They demonstrate that the cooperative planning associated with the Logan-Albert initiative has evolved during the eleven year review period in a manner that is consistent with the planning paradigm shift that has been shown to be associated with contemporary and emergent environmental planning theory and practices. Whilst there are still some noted deficiencies in both substantive and procedural issues, the overall signs are positive with a demonstrated close alignment in detail with the evolving forms of the comprehensive-adaptive environmental planning approach. In a broad sense, it also showed reasonably strong correlations with the incremental approach that is consistent with its history as an evolutionary and cautious stepped approach from a cooperative to a more collaborative planning approach. The most progressive achievements in this regard have been the gradual improvement in the LARMCCs acceptance of fuller community engagement as an essential part of their cooperative model and its embrace of joint policy development and coordinated implementation. Towards the end of the review period, the Logan-Albert CPM was judged to be well developed towards an integrated approach to landscape management with strong evidence that an adaptive management regime had been in operation to produce the observed changes in the model and its associated practices of cooperative planning. There were also promising opportunities for further development in this regard, through the formal incorporation of adaptive management practices into a future cooperative plan implementation phase for the policy outcomes. This would entail well-developed monitoring, evaluation, reporting and learning-by-doing components built into the implementation measures to improve the capacity building potential of the political and professional partners of the LARMCC, LARTSG, LARCCC and the general catchment community. The significant key findings of this study and indicators of the broad range of shifts in various paradigms that are associated with the case study are outlined below.

10.2.2 Validating the Working Definition

The Logan-Albert experience has **validated the working definition of *cooperation*** that was adopted for this study. It was shown that the local authorities of the Logan -Albert catchment acted in a voluntary, self-selecting and corporate manner to jointly participate in a range of cooperative planning activities. In doing so, they shared resources, experiences and authority in a mainly conflict-free collaborative working environment. The individual council members of the partnership however retained their autonomy and freedom of action and ultimately decide their own courses of action in response to the jointly derived outcomes from the cooperative

effort. The review of the adapted L-A CPM associated with this initiative demonstrated that this cooperative behaviour could lead to voluntary forms of collaborative and coordinated outcomes.

10.2.3 Confirming the Research Question

a. An Appropriate Operating Scale

In terms of the **regional scale** theme of the research question, the study established that contemporary environmental management issues of regional significance could be identified and managed through cooperative planning efforts based on a natural unit such as a river catchment. It also demonstrated that this could be achieved using voluntary cooperative arrangements involving collectives of local authorities without the necessity of creating an additional (fourth) tier of governance and supporting administration. The cooperative process did identify a set of mutually agreed key river and catchment issues of regional significance that were then prioritised for planning attention and subsequent policy development. It was also demonstrated that there was a strong alignment between these regionally significant priority catchment issues and key national sustainability issues that were advocated by the national State of the Environment (SoE) review processes.

This study has demonstrated that local government is more likely to collectively, rather than individually, acknowledge and address problems and management challenges, particularly those of a regional scale and occurrence. This includes those of a regional nature that may not necessarily be located solely within their primary area of responsibility.

The Logan-Albert case study shows that new subnational levels of governance are not required to address the contemporary regional scale management and planning challenges. It has been clearly demonstrated that *voluntary groupings of local authorities within a river catchment can address regionally significant environmental issues.*

b. An Appropriate Method of Management

The experience of the Logan-Albert case study in terms of the research question's second theme of **traditional planning** has demonstrated that local authorities can cooperatively address key management issues of regional significance in a coordinated fashion through the exercise of their traditional statutory planning responsibilities. During the review period, there was strong evidence that local authorities increasingly acknowledged the various suites of key management issues through both implied and explicit incorporation of policy into their statutory planning schemes.

The voluntary cooperative efforts of the local authorities, as a group of catchment managers, led to joint policy development for their agreed issues of regional significance. A policy hierarchy was established that allowed the intent of these mutually agreed catchment-wide policies to cascade down into the statutory plans of the individual local authorities in a manner that facilitated the sharing of responsibility for implementation amongst a wide variety of stakeholders. This was achieved in a manner determined by the individual councils in accordance with their priorities and circumstances and allowed them to exercise their autonomous rights to prepare their own individual planning schemes.

This experience demonstrated that traditional planning could reinvent itself to respond to the array of regional scale challenges typical of those that confronted this catchment initiative. It was concluded that this adaptive approach of *traditional local government planning frameworks did address regionally significant environmental issues of catchment scale.*

c. An Appropriate Organisation for Management

The third theme of the research question focused on the **cooperative approach** in order to demonstrate if local authorities could cooperate to achieve a common set of goals. The initiative involved a triad organisational structure comprising a management committee, technical support group and community consultative committee group which provided a working example of a joint “bottom up-lateral” regional cooperative planning and management model. This arrangement provided horizontal linkages between the participating local authorities and vertical linkages between the community and two levels of government and their respective agencies.

The LARMCC made a significant contribution to the coordination between participating organisations by functioning as an arena for dialogue and interaction. This enabled coordination of formal and informal policies amongst the participants and established an ongoing network for information exchange. Examples of regional cooperation by these local planning agencies included joint policy development for agreed key management issues and the coordinated approach to addressing these issues in each local authority's strategic plan.

The experience of the Logan-Albert initiative has demonstrated that local government, the community and other landscape management agencies did embrace cooperative planning approaches to landscape management through the adaptation of existing planning frameworks and arrangements. The conclusions provide clarification that *voluntary cooperation amongst local authorities within a river catchment is possible for the purposes of environmental management and planning at the regional scale.*

10.3 ASSOCIATED RESEARCH FINDINGS

This research study has highlighted a number of associated findings of interest that provide additional opportunities to gain a better understanding of the principal research question. They also provide additional insight into how cooperative planning approaches to environmental management at the regional level could be further developed and enhanced.

10.3.1 Willingness to Share Collective Responsibilities

The cooperative approach facilitated individual local authorities to collectively acknowledge and address environmental problems and management challenges that they may not have recognised on an individual basis. This was particularly the case for issues of a regional nature and occurrence, including those that were located outside of their geographical area of responsibility. The collaborative process assisted local authorities to reach consensus on the priority management issues of regional significance that required their collective and individual policy attention. This was confirmed by the experience of the Logan-Albert case study.

10.3.2 Benefits of Collective Achievements

Collective achievements are greater than the sum of the individual parts. The case study experience has demonstrated that these cooperative initiatives can allow smaller local authorities (particularly rural councils with small rate bases) to reach standards in environmental planning and management they would never have achieved individually. This leads to the overriding conclusion that cooperative arrangements do not necessarily lead to a 'lowest common denominator' outcome, but in fact, the evidence from this research suggest that the reverse is true. Smaller, less resourced and empowered members were assisted by the larger, more capable members to collectively achieve higher standards than they would otherwise have achieved on their own.

10.3.3 Institutional Learning and Adaptive behaviour

Institutions can learn and adapt their corporate behaviour. This was demonstrated by the shifts in attitude and the increase in commitments in the Logan-Albert initiative over the eleven year review period. Its most progressive achievements in this regard have been in the areas of community engagement and joint policy development. The built up of mutual trust and growth in confidence in the cooperative venture as more cooperative undertakings were successfully completed testify to these corporate shifts. This was facilitated by an adaptive management framework and a learning-by-doing approach through which LARMCC members increased their understanding and appreciation of the benefits of this form of cooperative activity during the course of the review period. This has led to opportunities being taken along more integrated lines for the landscape management tasks across a whole range of cooperative activities.

10.3.4 Enhanced Levels of Integrated Management

The Logan-Albert experience has highlighted the opportunities that existed under these cooperative arrangements to achieve enhanced levels of integrated management. This was evident in terms of:

- attempts to integrate ecological sustainability with planning and decision-making for the catchment's issues of regional significance – substantive and procedural integration;
- efforts to integrate geographically across the individual local government, state agency and private property boundaries in terms of regionally significant landscape resources and features – spatial integration;
- the integration of decision making across time (including adaptive management approaches) to include the management of cumulative effects in the catchment – temporal integration;
- efforts to integrate agreed catchment-wide policy into the isolated statutory planning schemes of individual local authorities – policy and horizontal integration;
- efforts to integrate across different levels of government – policy and vertical integration; and
- efforts to integrate across different levels of landscape management (including state, regional, local and property) – functional and vertical integration.

These evolved forms of enhanced integration in planning and management support a conclusion of the emergence of a strengthened future role for local government in the area of landscape and environmental planning and management especially at the regional level. This evidence also supports the conclusion that local government can, through collaborative means, manage regional issues within river catchments in an integrated fashion.

10.3.5 The Importance of the Political Context for Cooperative Planning

The Logan-Albert experience has shown that in a cooperative planning undertaking of this form, the nature of its linkages and the degree of interaction between the planning process and specific stakeholders (including the community) will be entirely at the discretion of the political environment and the institutional arrangements and structures that it establishes to undertake the cooperative planning exercise. This political context can facilitate or hinder that crucial link for cooperative and participatory planning as well as determine its outcomes.

This overarching requirement for political acceptance must acknowledge contemporary planning and management imperatives that seek to achieve community ownership of the process and its outcomes, improved community engagement involving more equitable forms of power sharing, and higher degrees of transparency, equity and responsiveness to broader

environmental change. The entire cooperative process requires a constant investment in political will and effort in order to achieve its objectives.

10.3.6 The Importance of Political and Professional Champions

The role that political and professional champions play in the establishment and ongoing functioning of cooperative planning undertakings is crucial and cannot be underestimated. The Logan-Albert experience has conclusively demonstrated the crucial role that both forms of patronage and leadership played in the CPM process, especially the mutual support that both types of champions provided for each other. It was also shown that the process needs the services of a strong and committed sponsor to provide the essential support base from which the cooperative venture can be launched and maintained. It was demonstrated that this support needs to be a constant and long term commitment delivering continual certainty to the process.

10.3.7 The Importance of Higher Order Guidance and Support

This study has acknowledged the essential role that higher order guidance and support from State governments, peak professional bodies like the PIA and umbrella organisations such as the ALGA play in the encouragement of local government innovation. Their guidance and umbrella policy direction provides a high degree of confidence to local government especially if it is in experimental mode and operating within an adaptive management framework.

10.3.8 Opportunities to Explore New Forms of Governance

A number of authors have raised the question whether these evolving forms of collaborative planning will lead to new forms of governance. Whilst the Logan-Albert experience did not demonstrate that these emergent forms of collaborative planning operated as a style of governance that challenged traditional notions, there are indications that these trends were possible. This was evidenced by the emergent forms of increased community engagement, and the movement towards a more inclusionary process where the community contributed to the inputs of the planning process and took partial responsibility for the implementation of the outcomes. These trends may potentially lead towards an open and accountable system of governance with more equitable forms of power sharing involving a full partnership between the conventional environmental managers and the community. These outcomes provide additional support for the proposition of an emergent and strengthened future role for local government in landscape and environmental planning and management.

10.3.9 Generation of Social Capital

The Logan-Albert initiative and its L-A CPM contributed to the generation of social capital within the catchment and region through the raft of cooperative efforts and activities that were undertaken during the review period. The study has confirmed the valuable role that

cooperative and collaborative planning activity performs in the generation of social and intellectual ('shared') capital for the participating community. The Logan-Albert initiative did not rely on any one means but on a whole range of cooperative activities to produce this result. This is an area for further research, especially the role that voluntary activity plays as part of the community involvement in such collaborative planning exercise. In order to maximise future opportunities in cooperative planning that embrace more equitable partnership arrangements with the community, the nature and characteristics of voluntarism requires better understanding and closer definition.

10.3.10 Contribution to Sustainability Outcomes

It was shown that the Logan-Albert initiative, in particular the CPM process, can address a selected range of key SoE sustainable development issues of national and regional significance. There was a good alignment between the key (and some priority) issues developed and prioritised throughout the Logan-Albert initiative and the key SoE sustainability issues. This demonstrated that the CPM process could facilitate the identification of key sustainability issues of regional significance and a prioritisation process from which catchment-wide policy and implementation actions for their appropriate management were collaboratively derived. The incorporation of an adaptable management framework as part of the CPMs implementation and review phase of its continuous planning cycle provides further evidence that a long-term sustainable outcome is possible.

10.3.11 Close Alignment to Emergent Forms of Environmental Planning

The adopted planning process and its outcomes reflected an incremental (stepped) approach that edged the LARMCC towards higher degrees of cooperative and collaborative planning action during the review period. This incremental approach also assists to explain the existence of an adaptive management approach that very much influenced the changing attitude of the LARMCC members, in particular, their position on community engagement and joint policy development. However, in an overall sense, the planning process best aligns with emergent forms of the comprehensive-adaptable approach that places it at the forefront of evolving approaches to environmental planning endeavours. The research has also demonstrated the close alignment of the case study's planning process to the emergent substantive and procedural aspects of the environmental and associated fields of planning.

10.4 AN ENHANCED COLLABORATIVE PLANNING MODEL

An enhanced model of cooperative planning was adopted for this study to provide additional insight into the nature and challenges of voluntary cooperative activity amongst local authorities

in a regional grouping. The adopted L-A CPM deviated from the more generic CPM in two main respects.

Firstly, it acknowledges the critical importance of **demonstrating the need** for cooperative approaches to potential partners from the outset of the process, to the extent that these undertakings should be considered a distinct phase of the CPM. It is contended that without this special focus and attention at the very front-end of the intended cooperative process, further attempts at collaboration will be frustrating slow and inhibited, possible leading to outright failure. The importance of this preliminary phase has been demonstrated in the Logan-Albert case study.

The second principal point of departure from the generic CPM is in the recognition of a distinct phase to acknowledge the **business end of the cooperative planning** endeavours. To this extent, the L-A CPM gives specific recognition to the actual cooperative planning tasks that lead to and include the implementation aspects of the entire cyclic (continuous) planning process. This enhancement provides additional weight to the potential role of the planning discipline in collaborative planning and management through their employment of the planning process. A further point to note is the additional prominence that the L-A CPM gives to the Implementation and Review Phase, especially with the inclusion of the adaptive management measures.

Acknowledging these additional requirements has led to the enhancement of the generic CPM into a six phase dynamic model of cooperative regional planning for the Logan-Albert initiative (L-A CPM). These modified phases (with the corresponding references from the generic CPM in brackets) include:

- **Demonstration of Need Phase** (Antecedents): a preliminary phase involving the demonstration of the need for cooperative action to potential partners;
- **Formative Phase** (Problem-setting- part): preparing for cooperative effort and the partnership. Bringing together the potential stakeholders and obtaining their commitment for preliminary exploratory cooperative efforts and the development of the infrastructure to facilitate the collaboration;
- **Gestation Phase** (Problem-setting- part): further and more detailed levels of cooperative efforts, together with the further development of the infrastructure to facilitate the collaboration. Essentially settling in the process and the procedures;
- **Consolidation Phase** (Direction-setting): developing the cooperative agreement involving the identification of problems, exchange of information, conflict resolution, agreeing common goals, reaching consensus, and identifying planning actions;

- **Planning 'Business' Phase (Structuring):** a true cooperative planning phase involving the confirmation of agreed planning goals and objectives through to the evaluation of derived options and agreement on implementation actions; and
- **Implementation and Review Phase (Outcomes):** specification of actions, roles and tasks by stakeholders; implementation actions including monitoring, evaluation and the measurement of outcomes to review the original cooperative agreement and where necessary to renegotiate. Includes an important individual and corporate learning component for the participants.

The Logan-Albert experience has validated the L-A CPM and its suitability as a descriptive model of cooperative planning at the regional level. It has also provided clear evidence that this enhanced model is consistent with the emergent views of collaborative planning contained in the contemporary literature. It reinforced the enhanced role that the planning discipline could potentially bring to regional scale sustainable landscape management.

10.5 PLANNING PRACTICE

10.5.1 The Role of the Planner as a Technical Facilitator

The Logan-Albert experience has served to highlight the emergent and changing roles of the professional planner. Contemporary planners must now function in a variety of ways, many new and certainly many that they were not formally trained to undertake. The study has demonstrated the extensive range of potential roles for a planner in cooperative planning endeavours to include: adviser; mediator; negotiator; translator; facilitator; advocate; entrepreneur; communicator; educator; coordinator; information provider; broker; mobiliser; and interpreter. This list suggests that future planners operating in these circumstances and environments will need certain desirable skills and attributes including: multidisciplinary skills; coordination skills; scientific and technical competence; negotiation and mediation skills, facilitation skills; diplomatic skills; communication skills (especially verbal); creative skills; entrepreneurial skills; administration skills; and political savvy. Future planners will almost certainly be called upon to operate in non-partisan and apolitical modes where they will have to demonstrate their complete impartiality and ethical awareness.

Whilst this study has highlighted an extensive array of such roles and tasks, the Logan-Albert experience essentially suggests that the prime role in question centres on that of the *planner as a technical facilitator*. This was best exemplified by the functions that the planner undertook as part of the adaptive management process throughout the cooperative planning initiative. This involved the interpretation of technical data and information, advice on technical details and facilitation of the joint learning process. To this end, the study has considered the nature and

form of this evolving role, particularly in the absence of sufficient recognition of this role in professional planning circles generally and in planning education specifically.

10.5.2 Implication for Future Planning Education

Whilst recent planning graduates may have many of the core skills and capacities to deal with the new environmental and cooperative agendas, changes will be required to the educational programs and their content that prepare planners to work in these emergent planning fields. Whilst the education of young professionals should lay the foundation of this new planning culture, any planning education strategy must also include continuing education programs to realize the benefits of practicing planners currently in the profession.

A foundation principle for the design of future planning courses must fully embrace the concept of integration by drawing together by example, the previously separate fields of environmental studies, planning and management.

The major challenges for planning education will be addressing the goals of environmental sustainability whilst acknowledging the traditional planning foci of economic and social goals. Achieving this in an integrated fashion and within a cooperative planning framework will be the cornerstone of future successful planning courses. Planning education must also fully acknowledge the evolving role of the planner as a technical facilitator and give credence to the range of desirable attributes and skills previously noted.

10.5.3 Implications for the Planning Profession

This case study has demonstrated that the advantages of the traditional planning approach for addressing contemporary environmental and landscape management are not well understood or acknowledged outside of planning circles. If planning is to achieve a higher degree of acceptance by those responsible for environmental management and policy development particularly at local government level, it will require a concerted promotional and educational effort by planners and the planning profession.

10.5.4 Implications for Local Government Practice

The Logan-Albert experience has demonstrated that a considerable amount of time, patience and consistent engagement is required to convince local government of the benefits of cooperative planning initiatives and to reassure them that there will not be any loss of functions or threats to their autonomy in the process. However, the case study experience has demonstrated that once this is achieved, local government has the ability to embrace change. In fact, significant changes to local government practices were noted during the study's review period. These achievements were supported by the existence of umbrella policies of the peak

local government body in Australia, the ALGA, which provided higher level guidance, direction and confidence to the cooperating local authorities.

In terms of specific implications for local government, their emergent role in landscape and environmental planning and management has highlighted the need for specialist staff in the environmental and associated area and the recognition of an enhanced role for elected officials in cooperative planning and management at regional scales.

There will also be a need for local government to educate their constituents on the need for a wider regional perspective that now extends well beyond their traditional local scale focus and management responsibilities.

10.6 FURTHER RESEARCH OPPORTUNITIES

The fields of landscape and environmental planning and other associated planning endeavours are the subject of considerable interest and debate as we seek more robust and enduring ways to address issues of sustainable development and quality of life improvements. Many questions currently remain unresolved in this regard. A number of pertinent issues and questions that emerge from this study provide opportunities for future research. These are outlined below.

10.6.1 Formal Institutional Cooperatives

Why are formal arrangements such as a Joint Board not appealing to local government? These cooperative arrangements are and have been available to local government under existing and past legislation. This legislation provides local authorities with the means of establishing regional bodies for such purposes as regional planning. However, the literature reviewed demonstrates that even when these formal arrangements are entered into, the local authorities are most reluctant to cede their functions and statutory powers to this new cooperative body. In other cases local government has chosen to opt for a voluntary model such as the VROC model. The Logan-Albert case was not unique in this regard. Is it simply a question of wishing to retain autonomy or are there additional or deeper concerns?

10.6.2 Local Government Elected Officials

What are the challenges for local government elected officials operating at the regional level of decision-making for environmental and landscape management? It has been shown that the institutional arrangements and the decision-making environments for cooperative environmental and landscape management ventures can be vastly different from the structure and processes that characterise traditional local government. What challenges confront elected officials representing their respective local councils as they attempt to operate at these regional levels in

these cooperative arrangements? In particular, how do they adjust from their familiar local level of governance in areas such as public involvement in decision-making, interaction with constituents, issues of public administration responsibilities and accountabilities? Just as there has been a growing recognition of the need to invest in training for local government elected officials in the process of local governance, there are equal arguments to support the availability of training in regional landscape management and governance.

10.6.3 Broad Based Voluntary Partnerships

What are the requirements for the emergent partnerships that will see the engagement of the third (community) sector along-side the public and private sectors in full decision-making forums? It is suggested that future cooperative models at the local and regional scale will see the development of alliances between various arms of government and the third or independent sector (ie distinct from the state on the one hand and the market on the other). These new state-voluntary partnership arrangements in the field of landscape and environmental planning and management are seen as important component of a democratic society and are being forged in greater numbers. This growing trend in planning partnerships should increasingly push the boundaries of research into the nature of voluntary cooperation particularly in plan implementation.

10.6.4 Improved Community Engagement

How can we ensure that legitimate community groups are engaged in a cooperative planning venture in a manner that acknowledges their role and responsibilities in a transparent and public way? In planning undertakings of the nature and scale of the Logan-Albert initiative there is the challenge of seeking to engage the full range of community interests at the appropriate level of representation, ie the regional or catchment level groupings as opposed to the more common local level. There is also the danger of not engaging groups that represent genuine interests as opposed to those that under the cover of a bogus facade represent small scale self interests. An important area for future research is the issue of stakeholder analysis. The objective is to establish more robust and rational approaches to the recognition and engagement of appropriate community groups for cooperative planning exercises.

10.6.5 Future Influence of the Community

What role and influence will future communities have in our quest for sustainable futures and how can that community influence be engaged and harnessed? As a socially constructed concept, 'sustainability' outcomes will ultimately have to be determined by the community. There is strong evidence that future society will play an increasingly more influential role in cooperative planning undertakings and that they will ultimately determine whether and to what degree our landscape is managed on a sustainable basis. It has been noted that landscape

planning aims can only be accomplished with the collaboration of local actors and stakeholders. This acknowledges that the implementation of sustainable concepts will stem from social rather than ecological systems. What opportunities exist for power sharing cooperative arrangements that facilitate maximum community engagement in these broad based voluntary partnerships? Associated research is also required into the integration of social elements into environmental planning processes and the social context in which planning and decision-making occurs.

The effective engagement of communities in governance associated with future collaborative models require the development of robust structures which can simulate and act as a channel for the views of different communities, command the trust of different communities and be accountable for the role they play in engaging with other partners. There is still much to be learnt as to how this can be achieved effectively.

10.6.6 Cooperative Building of Social Capital

What are the measures for determining the opportunities for developing social (shared) capital from enhanced community engagement in voluntary cooperative planning ventures? A major point of significance related to the implications of collaborative planning activity that acknowledges its contribution to the stock of social and intellectual capital of the participating community which result from its expanding networks of collaboration and trust that builds up through successful cooperative ventures. This is a fertile area for further research, especially the role that voluntary activity plays as part of community involvement in such collaborative planning exercises. In order to maximise future opportunities in cooperative planning that embrace more equitable partnership arrangements with the community, the nature and characteristics of voluntarism requires improved understanding and closer definition.

10.6.7 New (virtual) Organisations

In voluntary collaborative forums, how is the corporate memory retained and safeguarded and where is the public face of that organisation? These emergent initiatives which lack conventional permanent presence and structures at the regional level raise some fundamental questions including who has:

- responsibility for the storing, retrieval and securing of the corporate knowledge of the voluntary cooperative organisation (eg is a secretariat required)?
- the task of championing the cooperative regional cause?
- principal responsibility for the monitoring of the implementation measures?
- the prime role for maintaining policy development?
- responsibility for addressing and responding to regional issues in a responsive manner?
- responsibility for liaison with higher levels of government? and
- the task of interfacing with the community?

There have been indications that these evolving forms of voluntary cooperation may be established as virtual entities with a heavy reliance on developing IT innovations.

10.6.8 Future IT Developments

What are the opportunities and roles for future IT development in cooperative planning undertakings? There is much speculation on the potential increasing influence that technological developments, particularly in the IT area, will have on basic cooperative undertakings including community participation. The development and use of a web site for the Logan-Albert initiative has provided some insight into the potential empowerment and capacity building opportunities that can be achieved from such initiatives in a cooperative planning venture. The web site functioned as an electronic point-of-contact and a 'virtual' home for the initiative. This is a potentially fertile ground for further development and research.

10.6.9 Catchment Size

What is an appropriate physical size for a community of interest (catchment or bioregion) for a cooperative planning exercise of the nature of the Logan-Albert initiative? The Logan-Albert experience noted that its catchment size produced some challenges for the elected members of the LARMCC, members of the LARCCC and the community-at-large in being able to conceptualise at the scale of the whole catchment. Many initially faced difficulties in addressing the large diverse range of interests and issues within the catchment especially those of regional significance. The challenge is defining an appropriate level and physical size for a workable community of interest, one that the public can relate to and take responsibility for.

10.6.10 Water

What is the link between people's quality of life perceptions and their desire for physical, psychological and visual access to water? Environmentally sensitive areas commonly contain landscape features with an association with water (eg the coastline, offshore islands, wetlands, river channels). This complex relationship is focused on the crucial land-water interface. In terms of rivers, it is the riverbank that partly defines the riparian zone within the river corridor that is the focus of attention. These environmental and spatial complexities give rise to planning and management challenges, which acknowledge that water is both a 'basic human need' and a 'quality of life' element. It is further acknowledged that the state of the catchment will determine the integrity of this important environmental attribute and that planning can provide the means for a community to achieve the fundamental environmental value that they place on this resource.

Further research is required to address a number of principal issues that relate to the management of these sensitive environments. These areas of research interest include:

- understanding people's attraction to water;
- understanding people's attraction to environmentally sensitive water-related sites, (eg islands);
- understanding the trade-offs between water as a 'basic human need' and a 'quality of life' element;
- determining the regional significance of water and water features and their role in a contemporary landscape;
- understanding the contribution of water-related sites and features to landscape scenic quality;
- managing demand for water-related sites and peoples attraction to water for a vast array of purposes (residences, recreation, tourism, industrial use, aesthetics etc);
- determining the carrying capacity of water features and incorporating these limits into management objectives and options; and
- determining and allocating environmentally acceptable uses for these sensitive water related environments.

10.7 COOPERATIVE REGIONAL PLANNING PROSPECTS

If planning is to play a role in contributing to future landscape management processes especially in order to give this process credibility, the most important contribution that the planning discipline can make is the planning process. Within the broader environmental sustainability debate, the emergent environmental planning approaches and paradigms current provide encouraging signs of assisting in this regard. However, if planning is to remain a relevant landscape and environmental planning profession it must take steps to reinvent itself in order to **recapture the lost ground.**

Coupled with these contemporary developments is the associated and emergent field of cooperative and collaborative planning. The local government experience of the case study with these planning arrangements has confirmed their ability to step up their functions to operate at the regional level in the fields of landscape and environmental planning and management. These cooperative arrangements have also demonstrated the potential for more equitable community engagement and partnering in order to embrace a more integrated approach. Such an approach is also necessary to acknowledge the biophysical, socio-economic and cultural environmental aspects in the quest for more enduring partnerships to can promote higher degrees of sustainable outcomes from cooperative endeavours. Through the incorporation of an adaptive management approach with a built-in learning component, participants gain in

confidence and understanding and become capable of adapting their behaviour and decision making to achieve more sustainable outcomes and 'quality of life' goals that they seek. This may also provide the ability for the system of management to evolve to more enduring arrangements and partnerships, set in an enhanced planning culture and network.

The Logan-Albert experience has confirmed these outcomes, trends and potential opportunities. It is also contended that the broad elements and principles associated with the CPM that defines the Logan-Albert experience have utility beyond the immediate Logan-Albert catchment. All catchments in similar circumstances are characterised by the same artificial division of their landscape by local authority and other agency boundaries within which the functions of planning and management and governance occur.

However, in terms of the overall outcomes of this study, we are reminded that its most important element is not the policies or strategies that resulted from the cooperative activities but the partnerships that were derived from its application within the community landscape.

This study has noted how regional interests are now included in most State sponsored regional planning exercises. In these circumstances, well established linkages need to be established between local government cooperative initiatives, such as the Logan-Albert, and the State sponsored regional planning exercises that in most cases they predate. There is clearly a need to facilitate maximum opportunities for local government to provide the benefits of their experience in cooperative undertakings to State initiated undertakings which in many cases are emanating from sources external to mainstream planning. In view of the recent tendency for national and state governments to establish further regional planning and management forums which are heavily reliant on cooperative approaches, it will be interesting to see if they draw upon the extensive array of experience that has now been built up in local government circles as evidenced by the Logan-Albert initiative.

It is generally agreed that any future strengthening of the role of local government will include a greater degree of devolution of responsibilities and power from the other levels of government and an expanded role for citizen participation in the affairs of government. These changes will be accompanied by higher degrees of voluntary and coordinated, collaborative and cooperative effort.

The planning challenge for future local government centres on two principal issues. Firstly, in order to respond to contemporary societal expectations for sustainable development and community demands for higher quality of life standards, traditional forms of planning currently practiced at this level need to be enhanced to accommodate the substantive and procedural

elements of the emergent forms of environmental planning. Secondly, local government will be required to embrace cooperative and collaborative forms of planning to address issues of regional significance that are located within their sphere of influence and concern.

The consistent call from all international appreciations of the global environmental condition of the last thirty years through to the recent sustainable development debates, has been for the adoption of a regional approach to environmental landscape management. Similarly, there has been an overriding consensus that sustainability strategies should be implemented directly through regional and local planning. The challenge is how to achieve this when this regional level is devoid of direct and requisite political representation, institutional arrangements and administrative structures, and professional and technical frameworks. Additional challenges arise as the existing institutional arrangements and structures do not mimic the regional level of attention required. This research study has explored the potential of one of a number of possible ways forward.

The significance of this research and its outcomes include the identification of a clear mandate for traditional planning to embrace change, in particular an emergent paradigm shift in order to become actively involved to address emergent environmental and landscape management issues of regional significance. The research also demonstrates the benefits of emergent planning processes, in particular, cooperative and collaborative planning. It provides an insight into cooperative planning processes that attempt to engage the community at catchment scale. This has assisted to define the changing role of the professional planner and the implications for profession planning practice, planning education and local government practices.

The outcomes of this research have defined the importance of the regional perspective and focus, especially as an appropriate scale for addressing certain key sustainability issues. Importantly, it has provided a clearer understanding of the political context for cooperative planning and the decision-making processes that operate at local government level and at regional collaborative scale.

Within the limitations and recommended enhancements noted, this study has concluded that *a voluntary cooperative coalition of existing local authorities within a river catchment can manage regionally significant environmental issues through their traditional planning frameworks.*

POSTSCRIPT

In a thoughtful article titled: *Landscape prospects of the next millennium*, Jacobs and Mann (2000: 132) have written "for those who are in the thick of it, the question of landscape resource decision-making is the key. Justice Oliver Wendell Holmes suggested that 'A river is more than an amenity, it is a treasure. It offers a necessity of life that must be rationed amongst those who have power over it by extension, we need to recognise that all pristine, unique, rural, sacred, and even prosaic open landscapes are more than amenities. In the 21st century, certainly by its closing decades, they will be treasures".

They see the future challenges confronting landscape planning in the management of our sensitive and fragile landscapes, summed up in the following extract from Norman MacLean's poem: "Eventually, all things merge into one, and a river runs through it. The river was cut by the world's great flood and runs over rock from the basement of time. On some of the rocks are timeless raindrops. Under the rocks are the words, and some of the words are theirs", they also see a new landscape opportunity, "a new vision of a shared habitat, where people stand with respect for each other and the landscapes they have helped to shape and will shape again" (Jacobs and Mann, 2000: 132).

Jacobs and Mann would seek meaningful landscape as our future environments, suggesting that understanding what motivates our activities in these environments is central to good planning.

BIBLIOGRAPHY

AACM International, 1995: *Enhancing the Effectiveness of Catchment Management Planning*, Final report, Department of Primary Industries and Energy.

Aberley, D., (ed), 1994: *Futures by Design: The Practice of Ecological Planning*, New Society Pub, Gabriola Island, BC.

Aberley, D., 1999: "Interpreting Bioregionalism: A story from many voices", Ch 2 in McGinnis, M.V., (ed), 1999: *Bioregionalism*, Routledge, London.

Advisory Council for Inter-government Relations (ACIR), 1984: *Responsibilities and Resources of Australian Local Government*, Report 7, AGPS, Canberra.

Albert Shire Council. (ASC), 1995a: *Albert Shire Planning Studies 1995*.

Albert Shire Council. (ASC), 1995b: *Albert Shire Planning Scheme 1995*

Alexander, E.R., 1992: *Approaches to Planning - Introducing Current Planning Theories, Concepts and Issues*, 2nd ed, Gordon & Breach Sci Pub, USA.

Alexander, E.R., 1993: "Interorganisational Coordination: Theory and Practice", in *Journal of Planning Literature*, 7(4), Mar 1993, pp 328-343.

Alexander, E.R., 1995: *How Organisations Act Together - Interorganizational Coordination in Theory and Practice*, Gordon & Breach Pub, Australia.

Alter, C. & Hage, J., 1993: *Organisations Working Together*, Sage Pub, California.

Andrews, K. & Curtis, M., 1998: *Changing Australia: Social, Cultural and Economic Trends Shaping the Nation*, The Federation Press, Sydney.

Aplin, G., et al, 1999: *Global Environmental Crises: An Australian Perspective*, (2nd ed), Oxford Uni Press, Melbourne.

Armitage, D., 1995: "An Integrative Methodological Framework for Sustainable Environmental Planning and Management", in *Environmental Management*, 19(4), pp 469-479.

Armour, A., 1989: "Integrating Impact Assessment in the Planning Process: From Rhetoric to Reality", in *Integrating Impact Assessment in the Planning Process: International Perspectives and Experience*, Assessment Bulletin, 8 (1 & 2), International Association for Impact Assessment, pp 3-14.

Arnstein, S.R., 1969: "A Ladder of Citizen Participation", in *Journal of the American Institute of Planners*, 35(4), pp216-224.

Australian Bureau of Statistics (ABS), 1992: *Striking A Balance! Australia's Development & Conservation*, Cat 1314.0, AGS, Canberra.

Australian Bureau of Statistics (ABS), 1994: *Regional Statistics Queensland*, ABS Catalogue No 1314.3, Brisbane.

Australian Bureau of Statistics (ABS), 1996: *Australians and the Environment*, Cat 4601.0, AGS, Canberra.

Australian Bureau of Statistics (ABS), 1999: *Australian Social Trends*, Cat 4102.0, AGS, Canberra.

Australian Local Government Association (ALGA), 1990: *Partnership Protocols: A local government guide for improving intergovernment and community cooperation*, Australian Local Government Association, Canberra.

Australian Local Government Association (ALGA), 1994: *ALGA Policy Document*, Australian Local Government Association, Canberra.

Australian Local Government Association (ALGA), 1995: *A Suggested Framework for Preparing Regional Environmental Strategies*, Australian Local Government Association, Canberra.

Australian Local Government Association (ALGA) & ICL Australia Pty Ltd, 1989: *The Australian Local Government Handbook*, AGPS, Canberra.

Australian State of the Environment Committee, (ASoEC) 2001: *Australia State of the Environment: 2001*, Environment Australia, CSIRO Pub, Melbourne.

Australian Urban and Regional Development Review (AURDR), 1995: *Urban Australia: Trends and Prospects*, Research Report #2, AURDR, Melbourne.

Australian Water Resources Council (AWRC), 1988: *Proceedings of the National Workshop on Integrated Catchment Management*, AWRC Conf Series No 16, Uni of Melbourne.

Baker, M., 1995: "Return to the Regions?", in *Town and Country Planning*, 64(10), pp 280-282.

Barnett, J., 2000: "What's New About the New Urbanism?", in Leccese, M. & McCormick, K., (eds), 2000: *Charter of the New Urbanism*, McGraw Hill, New York.

Beautesert Shire Council, (BSC), 1996: *Strategic Plan 1996 Planning Study*.

Beer, A., Bolam, A. & Maude, A., 1994: *Beyond the Capitals: Urban Growth in Regional Australia*, Commonwealth Department Housing and Regional Development, Urban Futures Research Program, AGPS, Canberra.

Beringer, I., Chomiak, G. & Russell, H., 1986: *Corporate Management - The Australian Public Sector*, Hale & Iremonger, Sydney.

Birkeland, J., 1996: "Ethics-Based Planning", in *Australian Planner*, 33(1), pp 47-49.

Bickman, L. & Rog, D.J., (eds), 1998: *Handbook of Applied Social Research Methods*, Sage Pub Inc, California.

Biological Diversity Advisory Committee (BDAC), 1992: *A National Strategy for the Conservation of Australia's Biological Diversity*, draft, Department of the Arts, Sport, the Environment and Territories, Canberra.

Blowers, A, and Evans, B., (eds), 1997: *Town Planning in the 21st Century*, Routledge, London.

Blowers, A, 1997: "Environmental Planning for Sustainable Development", Ch 3 in Blowers, A, and Evans, B., (eds), 1997: *Town Planning in the 21st Century*, Routledge, London.

Blumenfeld, Y., (ed), 1999: *Scanning the Future - 20 Eminent Thinkers on the World of Tomorrow*, Thames & Hudson, London.

Bond, A.J., Mortimer, K.J. & Cherry, J., 1998: "The Focus of Local Agenda 21 in the United Kingdom", in *Journal of Environmental Planning and Management*, 41(6), pp 767-776.

Boonah Shire Council (BSC), undated: *Boonah Shire – A Vision for Our Future*.

Booth, C.A. & Teoh, C.H., 1992: "Total Catchment Management in New South Wales – The Community and government Working Together", in Hamilton, G.J., Howes, K.M. & Attwater, R., (eds): *Integrated Catchment Management*, Vol 11, Proc 5th Australian Soils Conservation Conf, Western Australia.

Borchardt, D.H., 1991: *Commissions of Inquiry in Australia - A Brief Survey*, La Trobe Uni Press, Melbourne.

Born, S.M. & Sonzogni, W.C., 1995: "Integrated Environmental Management: Strengthening the Conceptualization", in *Environmental Management*, 19(2), pp 167-181.

Borrinni-Feyerabend, G., 1999: "Collaborative management of protected areas", Ch 24 in Stolton, S, & Dudley, N., (eds), 1999: *Partnerships for Protection - New Strategies for Planning and Management for Protected Areas*, Earthscan, London.

Bouma, G.D., 1996: *The Research Process*, 3rd ed, Oxford Uni Press, Oxford.

Bowman, M., 1979: *Australian Approaches to Environmental Management: the Response of State Planning*, Environmental Law Reform Group, Uni of Tasmania.

Bowman, M., 1983: "Local Government in Australia", Ch 9 in Bowman, M. & Hampton, W., (eds), 1983: *Local Democracies - A Study in Comparative Local Government*, Longman Cheshire, Melbourne.

Bowman, M. & Hampton, W., (eds), 1983: *Local Democracies - A Study in Comparative Local Government*, Longman Cheshire, Melbourne.

Boyer, MC, 1996: *Cybercities: Visual Perception in the Age of Electronic Communication*, Princetown Arch Press, 245p.

Breakwell, G.M., Hammond, S. & Fife-Schaw, C., (eds), 1995: *Research Methods in Psychology*, Sage Pub Inc, London.

Briassoulis, H., 1989: "Theoretical Orientations in Environmental Planning: An Inquiry into Alternative Approaches", in *Environmental Management*, 13(4), pp 381-392.

Brisbane River Management Group (BRMG), 1998: *Waterways Management Plan 1998*, Queensland Department of Environment and Heritage.

Brown, D.W., 1995: *When Strangers Cooperate: Using Social Conventions to Govern Ourselves*, The Free Press, New York.

Brown, V.A., (ed), 1997; *Managing for Local Sustainability - Policy, Problem-solving, Practice and Place*, Commonwealth Department of Environment, Sports and Territories, Canberra.

Brown, R. & Moore, R., 1989: "An Overview of Project Work in Australian planning Schools", in *Urban Policy and Research*, 7(4), pp 164-171.

Brunckhorst, D.J., 2000: *Bioregional Planning - Resource Management Beyond the New Millennium*, Harwood Academic Pub, Amsterdam.

Brunson, M.W., 1998: "Social Dimension of Boundaries: Balancing Cooperation and Self-Interest", Ch 3 in Knight, R.L. & Landres, P.B., (eds), 1998: *Stewardship Across Boundaries*, Island Press, Washington DC.

Bruton, M.J., 1974: *The Spirit and Purpose of Planning*, Hutchinson, London.

Burchell, R.W. & Sternlieb, G., (eds), 1978: *Planning Theory in the 1980's: A Search for New Directions*, Centre for Urban Policy Research, Rutgers, New Brunswick.

Burton, J.R., 1988: "The Environmental Rationale for Integrated Catchment Management" in *Working Papers for the National Workshop on Integrated Catchment Management*, Australian Water Resources Council, Uni of Melbourne, Melbourne, pp 40-59.

Calthorpe, P., 2000: Ch 1 in Leccese, M. & McCormick, K., (eds), 2000: *Charter of the New Urbanism*, McGraw Hill, New York.

Campbell, S., 1996: "Green Cities, Growing Cities, Just Cities", in *Journal of the American Planning Association*, 62(3), Summer 1996, pp 296-312.

Campbell, S. & Fainstein, S.S., (eds), 1996: *Readings in Planning Theory*, Blackwell, Massachusetts.

Canterbury Regional Council, 1993: *Draft Regional Policy Statement*, consultation document,

Carson, R., 1962: *Silent Spring*, Houghton Mifflin, Boston.

Castells, M, & Hall, P, 1994: *Technopoles of the World - The Making of 21st Century Industrial Complexes*, Routledge, London.

Castells, M, & Hall, P, 1996: "Technopoles: Mines and Foundries of the Informational Economy" in LeGates, RT, & Stout, F, (eds), 1996: *The City Reader*, Routledges, pp 476-483.

Christensen, K.S., 1999: *Cities and Complexity: Making Intergovernmental Decisions*, Sage Pub, California.

Cheung, E., 1995: *Baby Boomers - Generation X and Social Cycles*, Longwave Press, Toronto.

Cigler, B.A., Jansen, A.C., Ryan, V.D. & Stabler, J.C., 1994: *Towards An Understanding of Multicommunity Collaboration*, US Department of Agriculture, Washington, DC.

Clark, B., 1990: *The Protection of Prime Agricultural Lands: A Case Study of the Planning Process in the Maryborough District*, unpublished Graduate Diploma Special Planning Study, Department of Planning and Landscape Architecture, QUT, Brisbane.

Clarke, R. & Timberlake, L., 1982: *Stockholm Plus Ten: Promises, Promises? The decade since the 1972 UN Environment Conference*, Earthscan, London.

Claval, P., 1993: *Initiation à la Géographie Régionale*, translated by Thompson, I., 1998: *An Introduction to Regional Geography*, Blackwell, Oxford.

Crowe, S., 1969: *Landscape Planning: A policy for an overcrowded world*, IUCN Publications, Switzerland.

Coaldrake, P. & Nethercote, J.R., (eds), 1989: *What should Governments Do?*, Hale & Iremonger, Sydney.

Cohen, L. & Manion, L., 1994: *Research Methods in Education*, 4th ed, Routledge, London.

Colby, M.E., 1991: "Environmental Management in Development: the Evolution of Paradigms", in *Ecological Economics*, 3, pp 193-213.

Colman, J., 1993: "Planning Education in the 90s", in *Australian Planner*, 31 (1), Mar 1993, pp 19-23.

Commission on Sustainable Development (CSD), 1997: *Programme for the Further Implementation of Agenda 21*, report to Earth Summit+5, Special Session of General Assembly, Jun 1997, <http://www.un.org/esa/sustdev/>, (site visited 10 Mar 2000).

Commonwealth of Australia, (CoA), 1970a: *Report from the Senate Select Committee on Air Pollution*, Parliamentary Paper No 91, AGPS, Canberra.

Commonwealth of Australia, (CoA), 1970b: *Report from the Senate Select Committee on Water Pollution*, Parliamentary Paper No 98, AGPS, Canberra.

Commonwealth of Australia, (CoA), 1972: *Australian Environment: Commonwealth Policy and Achievements*, Ministerial Statement, 24 May, 1972, Parl Paper No 67, Commonwealth Government Printing Office, Canberra.

Commonwealth of Australia, (CoA), 1984: *A National Conservation for Australia*, AGPS, Canberra.

Commonwealth of Australia, (CoA), 1992a: *National Strategy for Ecologically Sustainable Development*, AGPS, Canberra.

Commonwealth of Australia, (CoA), 1992b: *Ecologically Sustainable Development Working Group Chairs: Intersectoral Issues Report*, AGPS, Canberra.

Commonwealth of Australia, (CoA), 1992c: *Biodiversity: The Contribution of Community-based Programs*, Report of the House of Representatives Standing Committee on Environment, Recreation and the Arts, AGPC, Canberra.

Commonwealth of Australia, (CoA), 1995: *Australia's Report to the UNCED on the Implementation of Agenda 21*, AGPS, Canberra.

Commonwealth of Australia, (CoA), 2000: *Co-ordinating Catchment Management*, report of Inquiry into Catchment Management, House of Representatives Standing Committee on Environment and Heritage, December 2000, Canberra.

Commonwealth of Australia, (CoA), 2001: *Australian Dryland salinity Assessment 2000*, National Land and Water Resources Audit, Canberra.

Conacher, A. & Conacher, J., 2000: *Environmental Planning and Management in Australia*, Oxford Uni Press, Melbourne.

Coopers and Lybrand, 1994: *An Analysis of EIA Practices and Procedures in Australian States and Territories*, (Review of Commonwealth Environmental Impact Assessment), Commonwealth Environment Protection Agency, Canberra.

Cortner, H.J. & Moote, M.A., 1999: *The Politics of Ecosystem Management*, Island Press, Washington DC.

Cortner, H.J., Wallace, M.G. & Moote, M.A., 1999: "A Political Context Model for Bioregional Assessments", Ch 5 in Johnson, K.N., Swanson, F.J., Herring, M. & Greene, S., (eds), 1999: *Bioregional Assessments - Science at the Crossroads of Management and Policy*, Island Press, Washington DC.

Costin, A.B. & Frith, H.J., (eds), 1971: *Conservation*, Pelican, Penguin Books, England.

Council on Environmental Quality & Department of State, 1982: *The Global 2000 Report to the President - Entering the Twenty-First Century*, Vols I & II, Penguin Books, Great Britain.

Court, J.D., Wright, C.J. & Guthrie, A.C., 1994: *Assessment of Cumulative Impacts and Strategic Assessment in Environmental Impact Assessment*, Commonwealth Environment Protection Agency, Canberra.

Cox, E., 1995: *A Truly Civil Society*, ABC Books, Sydney.

Cox, E. & Caldwell, P., 2000: "Making Policy Social", Ch 3 in Winter, I., (ed), 2000: *Social Capital and Public Policy in Australia*, Australian Institute of Family Studies, Melbourne.

Cunningham, C. & Teather, E., 1991: "The Fringeville File", in *Simulation/Games for Learning*, University of New England.

Curnow, G.R. & Saunders, C.A., (eds), 1983: *QUANGOS - The Australian Experience*, Hale & Iremonger, Sydney.

Cussen, K., 1996: "Planning for Post-Liberal Society?", in *Australian Planner*, 33(2), pp 82-84.

Cuthbert, A.R., 1994a: "An Agenda for Planning Education in the Nineties", in *Australian Planner*, Part 1, 31 (4) pp 206- 211.

Cuthbert, A.R., 1994b: "An Agenda for Planning Education in the Nineties", in *Australian Planner*, Part 2, 32 (1), pp 49-55.

Davie, P., Stock, E. & Low Choy, D., (eds) 1990: *The Brisbane River - A Source Book for the Future*, Australian Littoral Society Inc in assoc with Queensland Museum, Brisbane.

Davison, A. & Barns, I., 1992: "The Earth Summit and the Ethics of Sustainable Development", in *Current Affairs Bulletin*, 69 (1), Jun 1992, pp4-12.

Day, P., 1988: "Environmental Planning", Ch 6 in Hundloe, T. & Newman, R., (eds), 1988: *Environmental Practice in Australia*, Environment Institute of Australia Inc, Brisbane.

Denzin, N.K. & Lincoln, Y.S., (eds), 1994: *Handbook of Qualitative Research*, Sage Pub, California.

Denzin, N.K. & Lincoln, Y.S., (eds), 1998a: *The Landscape of Qualitative Research - Theories and Issues*, Vol 1, Sage Pub, California.

Denzin, N.K. & Lincoln, Y.S., (eds), 1998b: *Strategies of Qualitative Research*, Vol 2, Sage Pub, California.

Denzin, N.K. & Lincoln, Y.S., (eds), 1998c: *Collecting and Interpreting Qualitative Materials*, Vol 3, Sage Pub, California.

Department of Arts, Heritage and Environment, (DAHE), 1986: *State of the Environment in Australia*, AGPS, Canberra.

Department of Communication and Information, Local Government and Planning, (DCILGP), 1999: *Regional Communities Conference Report*, Beenleigh, 18th February, 1999.

Department of Environment and Planning NSW (DEP NSW), 1987: *A Guide to the NSW Environmental Planning Legislation*, Department of Environment and Planning, Sydney.

Department of Local Government (DLG), 1987: *Report on Investigations into the Effects of Sewage Disposal to the Logan River*, Engineering and Technical Services Division.

Dick, B., 1990: *Processes for Community Consultation*, Interchange, Brisbane.

Dollery, B. & Marshall, N., (eds), 1997: *Australian Local Government - Reform and Renewal*, Macmillan, Melbourne.

Dorney, R.S., (ed), 1987: *The Professional Practice of Environmental Management*, Springer-Verlag, New York.

Dovers, S., (ed), 2000: *Environmental History and Policy – Still Settling Australia*, Oxford University Press, Melbourne.

Dovers, S., 2001: *Institutions for Sustainability*, Tela: environment, economy and society paper, Issue 7, ACF, EIA & L&WA, Melbourne.

Downey, J. & McGuigan, J., (eds), 1999: *Technocities*, Sage Pubs, London.

Downey, J., 1999: "Afterword: Back to the Future?", in Downey, J. & McGuigan, J., (eds), 1999: *Technocities*, Sage Pubs, London.

Dublin, M., 1999: "Eros and planning", in Blumenfeld, Y., (ed), 1999: *Scanning the Future - 20 Eminent Thinkers on the World of Tomorrow*, Thames & Hudson, London.

Eagles, P.F.J., 1984: *The Planning and Management of Environmentally Sensitive Areas*, Longman, Melbourne.

Eddy, J.J. & Nethercote, J.R., (eds), 1994: *Towards National Administration: Studies in Australian Administrative History*, Hale & Iremonger, Sydney.

Electoral and Administrative Review Commission (EARC), 1990: *Local Authorities External Boundaries Review*, Issues Paper No 3.

- Elkington, J., 1997: *Cannibals with Forks: the Triple Bottom Line of the 21st Century Business*, Capstone, Oxford.
- Ellyard, P., 1998: *Ideas for the New Millennium*, Melbourne University Press, 188p.
- England, P., 1999: "Toolbox or Tightrope? The Status of Environmental protection in Queensland's Integrated Planning Act", in *Environmental and Planning Law Journal*, 16(2), pp 124-139.
- England, P., 2001: *Integrated Planning in Queensland*, The Federation Press, Sydney.
- Environmental Defenders Office (Qld) Inc (EDO), 1996: *Brisbane River Laws - The River and its Tributaries*, A Public Information Booklet, Nov.
- Environment Science and Services (ES&S), 2000: *Future Management Arrangements Consultancy: Best Practice*, Working Paper No 2, BRMG.
- Evans, B., 1994: "Theory, Sustainability and Environmental Planning", in *Town and Country Planning*, June, pp 186-188.
- Evans, B., 1997: "From Town Planning to Environmental Planning", Ch 1 in Blowers, A, and Evans, B., (eds), 1997: *Town Planning in the 21st Century*, Routledge, London.
- Evans, B. & Rydin, Y., 1997: "Planning, Professionalism and Sustainability", Ch 4 in Blowers, A, and Evans, B., (eds), 1997: *Town Planning in the 21st Century*, Routledge, London.
- Fainstein, S.S., & Fainstein, N., 1996: "City Planning and Political Values: An Updated View", Ch 12 in Campbell, S. & Fainstein, S.S., (eds), 1996: *Readings in Planning Theory*, Blackwell, Massachusetts.
- Faludi, A., (ed), 1973a: *A Reader in Planning Theory*, Urban & Regional Planning Series, Vol 5, Pergamon, Oxford.
- Faludi, A., 1973b: *Planning Theory*, Urban & Regional Planning Series, Vol 7, Pergamon, Oxford.
- Faludi, A., 1987: *A Decision-Centred View of Environmental Planning*, Urban & Regional Planning Series, Vol 38, Pergamon Press, Oxford.

Forman, R.T.T., 1995: *Land Mosaics - The Ecology of Landscapes and Regions*, Cambridge University Press, Cambridge.

Forester, J., 1996: "Argument, Power, and Passion in Planning Practice", Chapter 12 in Mandelbaum, S, Mazza, L. And Burchell, R., (eds), 1996: *Explorations in Planning Theory*, Centre for Urban Policy Research, Rutgers, New Brunswick.

Forester, J., 1999: *The Deliberative Practitioner: Encouraging Participatory Planning Processes*, MIT Press, Cambridge.

Forster, C., 1999: *Australian Cities - Continuity and Change*, 2nd ed, Oxford Uni Press, Melbourne.

Freestone, R., (ed), 1993: *Spirited Cities - Urban Planning, Traffic and Environmental Management in the Nineties*, The Federation Press, Sydney.

French, H.F., 1995: *Partnership for the Planet: An Environmental Agenda for the United Nations*, Worldwatch Paper 126, The Worldwatch Institute, Washington DC.

Friedmann, J. & Bloch, R., 1990: "American Exceptionalism in Regional Planning, 1933-2000", in *International Journal of Urban & Regional Research*, 14(4), pp 576-601.

Friedmann, J. and Kuester, C., 1994: "Planning Education for the Late Twentieth Century: An Initial Inquiry", in *Journal of Planning Education and Research*, pp 55-64.

Friedmann, J., 1997: "Workshop Report on Intercity Networks in the Asia-Pacific Region: A Report", in *Urban Policy and Research*, 15(3), pp218-224.

Friedmann, J., 1998: "Planning Theory Revisited", in *European Planning Studies*, 6(3), pp 245-253.

Friends of the Earth, 1972: *The Stockholm Conference: Only One Earth - An Introduction to the politics of Survival*, Earth Island Limited, London.

Frissen, P., 1997: "The virtual state: postmodernisation, informatisation and public administration", Ch 7 in Loader, B.D., (ed), 1997: *The Governance of Cyberspace - Politics, technology and global restructuring*, Routledge, London.

Gilbert, R., Stevenson, D., Girardet, H. & Stren, R., 1996: *Making Cities Work: The Role of Local Authorities in the Urban Environment*, Earthscan, London.

Gilpin, A., 1995: *Environmental Impact Assessment (EIA) - Cutting Edge for the Twenty-First Century*, Cambridge Uni Press, Cambridge.

Glasson, J., 1992a: *An Introduction to Regional Planning - Concepts, Theory and Practice*, 2nd ed, 6th impression, UCL Press, London.

Glasson, J., 1992b: "The Fall and Rise of Regional Planning in Economically Advanced Nations", in *Urban Studies*, 29(3-4), pp 505-531.

Glasson, J., 1995: "Regional Planning and the Environment: Time for a SEA Change", in *Urban Studies*, 32(4-5), pp 713-731.

Glasson, J., Jennings, S. & Wood, D., 1997: "Regional Planning in Western Australia: New Initiatives, But Old Problems", in *Urban Policy and Research*, 15(1), pp 31-41.

Gleeson, B. & Low, N., 2000: *Australian Urban Planning: New Challenges, New Agendas*, Allen & Unwin, Sydney.

Godet, M., 1994: *From Anticipation to Action: A Handbook of Strategic Prospective*, UNESCO Pub, Paris.

Gold Coast City Council. (GCCC) 1995: *City of Gold Coast Planning Scheme 1994*.

Gordon, J.C., 1999: "History and Assessment: Punctuation Nonequilibrium", Ch 3 in Johnson, K.N., Swanson, F.J., Herring, M. & Greene, S., (eds), 1999: *Bioregional Assessments - Science at the Crossroads of Management and Policy*, Island Press, Washington DC.

Goss, W., 1992: *Queensland Leading State*, State Economic Development Policy, Government Printer, Queensland.

Graham, S., & Marvin, S., 1996: *Telecommunications and the City - electronic spaces, urban places*, Routledge, London.

Graham, S., 1999: "Towards Urban Cyberspace Planning: Grounding the Global through Urban Telematics Policy and Planning", Ch 1 in Downey, J. & McGuigan, J., (eds), 1999: *Technocities*, Sage Pubs, London.

Graham Sansom Pty Ltd, 1994: *Integrated Planning for Australia's Regions: The Role of Voluntary Regional Cooperation*, National Committee on Regional Cooperation.

Gray, B., 1989: *Collaborating - Finding Common Ground for Multiparty Problems*, Jossey-Bass Pubs, San Francisco.

Grayson, R., Ewing, S., Argent, R., Finlayson, & McMahon, T., 2000: "On the Adoption of Research and Development Outcomes in Integrated Catchment Management", in *Australian Journal of Environmental Management*, 7, pp147-157.

Greater Toronto Area (GTA) Task Force, 1996: *Greater Toronto*, report of the GTA Task Force, January, 1996, Queen's Printer, Ontario.

Grinnell, R.M., 1993: *Social Work Research and Evaluation*, 4th ed, FE Peacock Pub, Illinois.

Grubb, M., Koch, M., Thomson, K., Munson, A. & Sullivan, F., 1993: *The 'Earth Summit' Agreements: A Guide and Assessment*, Royal institute of International Affairs, Earthscan, London.

Guba, E.G. & Lincoln, Y.S., 1998: "Competing Paradigms in Qualitative Research", Ch 6 in Denzin and Lincoln, (eds), 1998a: *The Landscape of Qualitative Research - Theories and Issues*, Vol 1, Sage Pub, California.

Gunderson, L.H., Holling, C.S. & Light, S.S., (eds), 1995: *Barriers and Bridges to Renewal of Ecosystems and Institutions*, Columbia University Press, New York.

Gunderson, L.H., 1999: "Stepping Back: Assessing for Understanding in Complex Regional Systems", Ch 2 in Johnson, K.N., Swanson, F.J., Herring, M. & Greene, S., (eds), 1999: *Bioregional Assessments - Science at the Crossroads of Management and Policy*, Island Press, Washington DC.

Hackett, B., 1970: *Landscape Planning - An Introduction to Theory and Practice*, Oriel Press, UK.

- Hakim, C., 1987: *Research Design - Strategies and Choice in the Design of Social Research*, Unwin Hyman, London.
- Hall, C., 1990: "Local Government Perspectives", in McKenna, H.F., Nethercote, J.R. & Sawyer, M., (eds), 1990: "Development and the Environment", in *Canberra Bulletin of Public Administration*, 62, October 1990, RAIPA.
- Hall, P., 1992: *Urban & Regional Planning*, 3rd ed, Routledge, London.
- Hall, P, 1998: *Cities in Civilization: Culture, Innovation and Urban Order*, Weidenfield & Nicolson, 1169p.
- Hall, R.H., 1999: *Organisations - Structures, Processes and Outcomes*, 7th ed, Prentice Hall, New Jersey.
- Halligan, J. and Wettenhall, R., 1990: "Major Changes in the Structure of Government Institutions", Ch 1 in Power, J., (ed), 1990: *Public Administration in Australia - a watershed*, Hale & Iremonger, Sydney.
- Hamilton, G.J., Howes, K.M. & Attwater, R., (eds), 1992: "Integrated Catchment Management", Vol 11, *Proc 5th Australian Soil Conservation Conference*, WA.
- Hamnett, S., 2000: "The Late 1990s: competitive verses sustainable cities", Ch 10 in Hamnett, S. & Freestone, R., (eds), 2000: *The Australian Metropolis: A Planning History*, Allen and Unwin, St Leonards.
- Hamnett, S. & Freestone, R., (eds), 2000: *The Australian Metropolis: A Planning History*, Allen and Unwin, St Leonards.
- Hancock, T., 1996: "Healthy, Sustainable Communities: Concept Fledgling Practice and Implementation for Governance", in *Alternatives Journal*, Apr/May, pp 18-23.
- Harding, R., 1998: *Environmental Decision Making - the Role of Scientists, Engineers and the Public*, The Federation Press, Sydney.
- Harman, E., 1993: "The Impact of Public Sector Reforms on Australian Governments", Ch 2 in Weller, P., Forster, J. and Davis, G., (eds) 1993: *Reforming the Public Service*, Centre for Australian Public Sector Management, Macmillan, Melbourne.

Harris, C.P., 1989: "Local Government and regional Planning", Ch 6 in Higgens, B., and Zagorski, K., (eds), *Australian Regional developments - Readings in Regional Experiences, Policies and Prospects*, AGPS, Canberra.

Harris, S., 1993: "Planning Education in the 1990s", in *Spirited Cities - Urban Planning, Traffic and Environmental Management in the Nineties*, R. Freestone (ed), The Federation Press.

Harvey, N., 1998: *Environmental Impact Assessment - Procedures, Practice and Prospects in Australia*, Oxford University Press, Melbourne.

Hawke, R.J.L., 1989: *Our Country Our Future - Statement on the Environment*, Jul 1989, AGPS, Canberra.

Healey, P., 1995: "Discourses of Integration: Making Frameworks for Democratic Urban Planning", in Healey, P., Cameron, S., Davoudi, S., Graham, A. & Madani-Pour, A., (eds), 1995: *Managing Cities: The New Urban Context*, Wiley, London.

Healey, P., 1997: *Collaborative Planning: Shaping Places in Fragmented Societies*, MacMillan, London.

Hegerl, E., Low Choy, D., Stock, E. & Davie, P., 1990: "Future Management of the Brisbane River", Ch 47 in Davie, P., Stock, E. & Low Choy, D., (eds) 1990: *The Brisbane River - A Source Book for the Future*, Australian Littoral Society Inc in assoc with Queensland Museum, Brisbane.

Henningham, J., (ed), 1995: *Institutions in Australian Society*, Oxford Uni Press, Melbourne.

Herring, M., 1999: "Introduction", in Johnson, K.N., Swanson, F.J., Herring, M. & Greene, S., (eds), 1999: *Bioregional Assessments - Science at the Crossroads of Management and Policy*, Island Press, Washington DC.

Hicks, B.B. & Brydges, T.G., 1994: "A Strategy for Integrated Monitoring", in *Environmental Management*, 18(1), pp 1-12.

Higgens, B., and Zagorski, K., (eds), 1989: *Australian Regional developments - Readings in Regional Experiences, Policies and Prospects*, AGPS, Canberra.

Holling, C.S., (ed), 1978: *Adaptive Environmental Assessment and Management*, John Wiley, New York.

Holling, C.S., 1995: "What Barriers? What bridges?", Ch 1 in Gunderson, L.H., Holling, C.S. & Light, S.S., (eds), 1995: *Barriers and Bridges to Renewal of Ecosystems and Institutions*, Columbia University Press, New York.

Hooper, B.P., McDonald, G.T. and Mitchell, B., 1999: "Facilitating Integrated Resource and Environmental Management: Australian and Canadian Perspectives", in *Journal of Environmental Planning & Management*, 42(5), pp 747-766.

Howe, R., 1995: "Local Government and the Urban Growth Debate", Ch 8 in Troy, P., (ed), 1995: *Australian Cities - Issues, Strategies and Policies for Urban Australia in the 1990s*, Cambridge Uni Press, Cambridge.

Humphries, G., undated (circa 1989): *A Report on a Proposed Community Consultation Process to Achieve the Creation of Policies on Matters Concerning the Development, Use & Management of the Logan River*, unpublished, Queensland Recreation Council.

Hundloe, T. & Newman, R., (eds), 1988: *Environmental Practice in Australia*, Environment Institute of Australia Inc, Brisbane.

Hutton, D. & Connors, L., 1999: *A History of the Australian Environmental Movement*, Cambridge Uni Press, Cambridge.

Ife, J., 1995: *Community Development: Creating community alternatives - vision and practice*, Longman, Melbourne.

Institute for Global Communications (IGC), 2000: *Agenda 21 and Other UNCED Agreements*, (Econet), <http://www.igc.org/habitat/agenda21>, (site visited 11 Mar 2000).

Institute of Ecology, 1972: *Man in the Living Environment: A Report on Global Ecological Problems*, Uni of Wisconsin Press, Wisconsin.

International Council for Local Environmental Initiatives (ICLEI), 1996: *The Local Agenda 21 Planning Guide - An Introduction to Sustainable Development Planning*, ICLEI, Toronto.

International Council for Local Environmental Initiatives (ICLEI), 1997: *Local Government Implementation of Agenda 21*, <http://www.iclei.org/la21/la211gov.htm>, (site visited 9 Mar 2000).

International Council for Local Environmental Initiatives (ICLEI), 1998: *Local Agenda 21 Model Communities Programme - An Action Research Partnership*, Vol 1 Final Volume, ICLEI, Toronto.

International Union for Conservation of National and Natural Resources (IUCN), 1980: *World Conservation Strategy: Living Resource Conservation for Sustainable Development*, in cooperation with United Nations Environment Programme (UNEP) and the World Wildlife Fund (WWF).

IUCN/UNEP/WWF, 1989: *World Conservation Strategy for the 1990's*, (provisional title), First Draft, Sept 1989.

IUCN/UNEP/WWF, 1990: *Caring for the World: A Strategy for Sustainability*, Second Draft, Jun 1990.

IUCN/UNEP/WWF, 1991: *Caring for the Earth: A Strategy for Sustainable Living*, Gland, Switzerland.

Jacobs, P. and Mann, R., 2000: "Landscape prospects of the next millennium", in *Landscape and Urban Planning*, 47 (3-4), pp 129-133.

Janesick, V.J., 1994: "The Dance of Qualitative Research Design: Metaphor, Methodolatry and Meaning", Ch 12 in Denzin, N.K. & Lincoln, Y.S., (eds), 1994: *Handbook of Qualitative Research*, Sage Pub, California.

Johnson, A.K.L., Shrubsole, D. & Merrin, M., 1996: "Integrated Catchment Management in Northern Australia", in *Land Use Policy*, 13(4), pp 303-316.

Johnson, K.N., Swanson, F.J., Herring, M. & Greene, S., (eds), 1999: *Bioregional Assessments - Science at the Crossroads of Management and Policy*, Island Press, Washington DC.

Johnson, K.N. & Herring, M., 1999: "Understanding Bioregional Assessments", Ch 13 in Johnson, K.N., Swanson, F.J., Herring, M. & Greene, S., (eds), 1999: *Bioregional Assessments - Science at the Crossroads of Management and Policy*, Island Press, Washington DC.

- Jones, M.A., 1981: *Local Government and the People*, Hargreen Pub, Melbourne.
- Jones, M.A., 1993: *Transforming Australian Local Government - making it work*, Allen & Unwin, Sydney.
- Junor, B., 1992: "TCM, Landcare and Planning Working Together to Create the New Australian Landscape", paper to *23rd Biennial Congress*, RAPI/Local Govt Planners Assoc/Aust Assoc Consult Planners, Canberra, April, 1992.
- Keating, M., 1993: *The Earth Summit's Agenda for Change*, (2nd ed), Centre for Our Common Future.
- Keating, P.J., 1994: *Working Nation - Policies and Programs*, (4th May 1994), AGPS.
- Kelly, R.J., 1992: *Environment and Development: Report by Minister for the Arts, Sports, the Environment and Territories on the Earth Summit - UNCED*, AGPS, Canberra.
- Kennedy, J.D., 1999: "Sierra Nevada Ecosystem Project: Management Review", Ch 12 in Johnson, K.N., Swanson, F.J., Herring, M. & Greene, S., (eds), 1999: *Bioregional Assessments - Science at the Crossroads of Management and Policy*, Island Press, Washington DC.
- Kenny, M. & Meadowcroft, J., (eds), 1999: *Planning Sustainability*, Routledge, London.
- King, A., (ed), 1980: *The State of the Planet*, Report prepared by the International Federation of Institutes for Advanced Study (IFIAS), Pergamon Press, England.
- Klosterman, R.E., 1996: "Arguments For and Against Planning", Ch 6, in Campbell, S. & Fainstein, S.S., (eds), 1996: *Readings in Planning Theory*, Blackwell, Massachusetts.
- Klyza, C.M., 1999: "Bioregional possibilities in Vermont", Ch 5 in McGinnis, M.V., (ed), 1999: *Bioregionalism*, Routledge, London.
- Knight, R.L. & Landres, P.B., (eds), 1998: *Stewardship Across Boundaries*, Island Press, Washington DC.

Kozlowski, J.M., 1990: "Sustainable development in professional planning: a potential contribution of the EIA and UET concepts", in *Landscape and Urban Planning*, 19, pp 307-332.

Kozlowski, J., 1993: "Towards 'ecological re-orientation' of professional planning", Ch 1 in Kozlowski, J., & Hill, G., (eds), 1993: *Towards Planning for Sustainable Development: A Guide for the Ultimate Environmental Threshold (UET) Method*, Avebury, Aldershot.

Kunert, C. & McGregor, A., 1996: *Wild River Conservation Management Guidelines*, report to the Australian Heritage Commission.

Lafferty, W..M. & Eckerberg, K., (eds), 1998: *From the Earth Summit to Local Agenda 21 - Working Towards Sustainable Development*, Earthscan Pub, London.

Landres, P.B., Knight, R.L., Pickett, S.T.A. & Cadenasso, M.L., 1998: "Ecological Effects of Administrative Boundaries", Ch 2 in Knight, R.L. & Landres, P.B., (eds), 1998: *Stewardship Across Boundaries*, Island Press, Washington DC.

Landscape Planning Group, GDLA, QIT, 1985: *Logan City Watercourses Management Strategy*, unpublished report to Logan City Council.

Landscape Planning Group, GDLA, QUT, 1990: *Logan River: Towards a Management Strategy*, unpublished report to Logan River Management Coordinating Committee.

Landscape Planning Group, GDLA, QUT, 1991: *Logan River Catchment : Landscape Planing Study*, unpublished report to Logan River Management Coordinating Committee.

Lang, R., (ed), 1990: *Integrated Approaches to Resource Planning an Management*, The Baniff Centre School of Management, Uni of Calgary Press, Alberta.

Laszlo, E., et al, 1977: *Goals for Mankind: A Report to the Club of Rome on the New Horizons of Global Community*, E P Dutton, New York.

Laurie, M., 1986: *An Introduction to Landscape Architecture*, 2nd ed, Elsevier, New York.

Laut, P. & Taplin, B.J., 1988: *Catchment Management in Australia in the 1980s*, Div of Water resources, CSIRO, Canberra.

Lawrence, D.P., 1992: "Planning and Environmental Impact Assessment: Never the Twain Shall Meet?", in *Plan Canada*, July, pp 22-26.

Layder, D., 1993: *New Strategies in Social Research*, Polity Press, Cambridge.

Leccese, M. & McCormick, K., (eds), 2000: *Charter of the New Urbanism*, McGraw Hill, New York.

Le Gates, R.T. & Stout, F., (eds), 1996; *The City Reader*, Routledge, London.

Lenk, K., 1997: "The challenge of cyberspatial forms of human interaction to territorial governance and policing", Ch 8 in Loader, B.D., (ed), 1997: *The Governance of Cyberspace - Politics, technology and global restructuring*, Routledge, London.

Leopold, A., 1949: *A Sand County Almanac*, Special Commemorative Edition (reprinted 1987), Oxford Uni Press, New York.

Lessard, G., 1998: "An adaptive approach to planning and decision-making", in *Landscape and Urban Planning*, 40(1-3), pp 81-87.

Lichfield, N., 1996: *Community Impact Evaluation*, UCL Press, London.

Linehan, J.R. & Gross, M., 1998: "Back to the future, back to basics: the social ecology of landscapes and the future of landscape planning", in *Landscape and Urban Planning*, 42(2-4), pp 207-223.

Lindblom, C.E., 1995: "The Science of Muddling Through", in Stein, J.M., (ed), 1995: *Classic Readings in Urban Planning - An Introduction*, McGraw-Hill, New York.

Lindblom, C.E., 1999: "A Century of Planning", Ch 2 in Kenny, M. & Meadowcroft, J., (eds), 1999: *Planning Sustainability*, Routledge, London.

Lipschutz, R.D., 1999: "Bioregionalism, civil society and global environmental governance", Ch 6 in McGinnis, M.V., (ed), 1999: *Bioregionalism*, Routledge, London.

Loader, B.D., (ed), 1997: *The Governance of Cyberspace - Politics, technology and global restructuring*, Routledge, London.

Logan, M.I., Maher, C.A., Kay, J. & Humphreys, J.S., 1975: *Urban and Regional Australia - Analysis and Policy Issues*, Sorrett Pub, Malvern.

Logan City Council (LCC), 1989: *Annual Report*.

Logan City Council (LCC), 1990a: *Annual Report*.

Logan City Council (LCC), 1990b: *Community Services Guide 1990*. No 1.

Logan City Council (LCC), 1991: *Annual Report*.

Logan City Council (LCC), 1995: *Corporate Plan 1995-1998*

Low Choy, D.C., 1987: "Towards a Landscape Planning Educational Model", paper to 1987 Australian Educators in Landscape Architecture conference, *Developments in the Teaching of Design*, Brisbane.

Low Choy, D.C. & Bull, C., 1990: "A Landscape Management Approach for the Catchment", Ch 40 in Davie, P., Stock, E. & Low Choy, D., (eds) 1990: *The Brisbane River - A Source Book for the Future*, Australian Littoral Society Inc in assoc with Queensland Museum, Brisbane.

Low Choy, D.C., 1991: *Key Issues of Concern to Catchment Management Agencies*, unpublished report to LRMCC, dated May 1991.

Low Choy, D.C., 1992: "Local Conservation Strategies - A Changing Role for Local Government", in *Proc Royal Aust Plan Inst & Local Govt Planners Assoc Combined Planners Conf: Planning in Queensland in 1992 and Beyond*, Oct 1992, 21p.

Low Choy, D.C., 1994: "How Green is My Region - Towards a Regional Open Space System for South East Queensland", in *Queensland Economic Forecasts and Business Review*, 3(2), pp 71-85.

Low Choy, D.C., 1999: *Towards Joint Coordinated Management for the Logan & Albert Rivers Catchment*, A Background Paper, LARMCC, May 1999.

Low Choy, D.C. & Minnery, J.R., 1994: "SEQ 2002 - A Brave Bold Experiment or Regional Planning Too Late?", in *Urban Policy and Research*, 12(3), pp 200-212.

Low Choy, D.C. & McEachan, E., 1996: "Towards Third-Generation Community Planning", in *Local Government Management*, Jou of Inst of Municipal Management, 29(6), June 1996, pp 27-30.

Low Choy, D.C. & Davies, R., 1997: *A Strategy for Community Participation in Ongoing Planning and Management for the Logan and Albert Rivers Catchment*, unpublished report to LARMCC, dated September 1997.

Low Choy, D.C. & Davies, R., 1998: *Survey Report: Logan River Community Consultative Committee*, unpublished report to LARMCC, dated February 1998.

Low Choy, D.C. & Heitmann, S., 1998: *Logan and Albert Rivers Catchment: Community Database of Environmental Resources*, unpublished report to LARMCC, dated December 1998.

Low Choy, D.C. & Kirby, S., 1999: *Characteristics of Land Adjacent to the Logan/Albert Catchment Waterways*, unpublished report to LARMCC, dated February 1999.

Luccarelli, M., 1995: *Lewis Mumford and the Ecological Region: The Politics of Planning*, The Guilford Press, New York.

Luz, F., 2000: "Participatory landscape ecology - A basis for acceptance and implementation", in *Landscape and Urban Planning*, 50(1-3), pp 157-166.

Lynch, K., 1976: *Managing the Sense of a Region*, MIT Press, Cambridge.

Margerum, R.D., 1997: "Integrated Approaches to Environmental Planning and Management", in *Journal of Planning Literature*, 11(4), Sage Pub, pp 459-475.

Margerum, R.D., 1999a: "Implementing Integrated Planning and Management", in *Australian Planner*, 36(3), pp 155-161.

Margerum, R.D., 1999b: "Integrated Environmental Management: lessons from the Trinity Inlet Management program", in *Land Use Policy*, 16, Elsevier Sci Ltd, pp179-190.

Margerum, R.D., 1999c: "Getting Past Yes - From Capital Creation to Action", in *Jou American Planning Assoc*, 65(2), Spring 1999, pp 181-192.

- Margerum, R.D., 1999d: "Integrated Environmental Management: The Foundations for Successful Practice", in *Environmental Management*, 24(2), pp 151-166.
- Margerum, R.D. & Born, S.M., 1995: "Integrated Environmental Management: Moving from Theory to Practice", in *Journal Environmental Planning and Management*, 38(3), pp 371-391.
- Margerum, R.D. & Born, S.M., 2000: "A Coordination Diagnostic for Improving Integrated Environmental Management", in *Journal Environmental Planning and Management*, 43(1), pp 5-21.
- Margerum, R.D. & Holland, R., 2000: *Environmental Planning in South East Queensland: An Evaluation of Local Government Activities and the Influence of Collaborative Growth Management*, Queensland University of Technology.
- Marsh, L.L. & Lallas, P.L., 1995: "Focused, Special-Area Conservation Planning: An Approach to Reconciling Development and Environmental Protection", Ch 2 in Porter, D.R. & Salvesen, D.A., (eds), 1995: *Collaborative Planning for Wetlands and Wildlife - Issues and Examples*, Island Press, Washington DC.
- Marshall, N., 1997: "Introduction", Ch 1 in Dollery, B. & Marshall, N., (eds), 1997: *Australian Local Government - Reform and Renewal*, Macmillan, Melbourne.
- Marshall, T., 1998: "The Conditions for Environmentally Intelligent Regional Governance: Reflections from Lower Saxony", in *Journal of Environmental Planning and Management*, 41(4), pp 421-443.
- Marshall, C. & Rossman, G.B., 1999: *Designing Qualitative Research*, 3rd ed, Sage Pub Inc, California.
- Martin, E, & Beatley, T., 1993: "Our Relationship with the Earth: Environmental Ethics in Planning Education", in *Journal Planning Education & Research*, 12, pp 117-126.
- Maxwell, J.A., 1998: "Designing a Qualitative Study", Ch 3 in Bickman, L. & Rog, D.J., (eds), 1998: *Handbook of Applied Social Research Methods*, Sage Pub Inc, California.
- May, T., 1998: *Social Research - Issues, methods and processes*, 2nd ed, Open Uni Press, Buckingham.

- Mazmanian, D.A. & Kraft, M.E., (eds), 1999: *Towards Sustainable Communities: Transition and Transformation in Environmental Policy*, MIT Press, London.
- McAllister, W.K. & Zimet, D., 1994: *Collaborative Planning - Cases in Economic and Community Diversification*, Report FS-575, USDA Forest Service, Washington DC.
- McDonald, G.T., 1996: "Planning as Sustainable Development", in *Journal of Planning Education and Research*, 15(3), pp 225-236.
- McDonald, G. & Shrubsole, D., 1996: "What They Told Us Queensland ICM in Focus", in *Aust Journal Soil & Water Cons*, 9(4), pp 10- 15.
- McGinnis, M.V., (ed), 1999: *Bioregionalism*, Routledge, London.
- McGinnis, M.V., House, F. & Jordan, W., 1999: "Bioregional restoration: Re-establishing an ecology of shared identity", Ch 12 in McGinnis, M.V., (ed), 1999: *Bioregionalism*, Routledge, London.
- McGuigan, J., 1999: "Introduction", in Downey, J. & McGuigan, J., (eds), 1999: *Technocities*, Sage Pubs, London.
- McHarg, I.L., 1969: *Design with Nature*, The Natural History Press, New York.
- McHarg, I.L., 1992: *Design with Nature*, John Wiley, New York.
- McHarg, I.L., 1996: *A Quest for Life - An Autobiography*, John Wiley, New York.
- McHarg, I.L. & Steiner, F.R., 1998: *To Heal the Earth: Selected Writings of Ian L. McHarg*, Island Press, Washington DC.
- McKenna, H.F., Nethercote, J.R. & Sawyer, M., (eds), 1990: "Development and the Environment", in *Canberra Bulletin of Public Administration*, 62, October 1990, RAIPA.
- McLoughlan, J.B., 1970: *Urban and Regional Planning: A Systems Approach*, Faber and Faber, London.
- Meadows, D.L., Meadows, D.H., Randers, J. & Behrens, W.W., 1972: *The Limits to Growth: A Report for the Club of Rome's Project on the Predicament of Mankind*, Pan Books, London.

Mesarovic, M. & Pestel, E., 1975: *Mankind at the Turning Point: The Second Report to the Club of Rome*, Hutchinson, London.

Milbrath, L.W., 1965: *Political Participation*, Rand McNally, Chicago.

Ministry of International Trade and Industry (Japan), 1987: *A Multifunction Polis Scheme for the 21st Century: Basic Concept*, MFP Planning Committee, Tokyo, unpublished, 30 Sep 1987.

Minnery, J.R., 1985: *Conflict Management in Urban Planning*, Gower, Aldershot.

Minnery, J.R. & Bowie, R., 1990: "Administrative and Legislative Context", Ch 41 in Davie, P., Stock, E. & Low Choy, D., (eds) 1990: *The Brisbane River - A Source Book for the Future*, Australian Littoral Society Inc in assoc with Queensland Museum, Brisbane..

Mitchell, B., 1988: "Integrated Catchment Management: Ideal and Reality", in *Working Papers for the National Workshop on Integrated Catchment Management*, Australian Water Resources Council, Uni of Melbourne, Melbourne, pp 75-100.

Mitchell, B., 1991: *Integrated Catchment Management in Western Australia: Progress and Opportunities*, Centre for Water Research, Uni of WA, Perth, Ref ED 569 BM.

Moote, M.A., Burke, S., Cortner, H.J. & Wallace, M.G., 1994: *Principles of Ecosystem Management*, University of Arizona, Tucson.

Morse, J.M., 1994: "Designing Funded Qualitative Research", Ch 13 in Denzin, N.K. & Lincoln, Y.S., (eds), 1994: *Handbook of Qualitative Research*, Sage Pub, California.

Muir, T., & Rance, B., (eds), 1995: *Collaborative Practice in the Built Environment*, E & FN Spon, London.

Muir, T., 1995: "Introduction to collaborative practice", Ch 1 in Muir, T., & Rance, B., (eds), 1995: *Collaborative Practice in the Built Environment*, E & FN Spon, London.

Munro-Clark, M., (ed), 1992: *Citizen Participation in Government*, Hale and Iremonger, Sydney.

Mutunayagam, N.B., 1981: *Cooperative Management: An Alternative Approach to Multijurisdictional Management of Environmental Resources*, unpub PhD, Virginia Polytechnic Institute and State University, Blacksburg, Virginia.

Neuman, M., 2000: "Regional design: Recovering a great landscape architecture and urban planning tradition", in *Landscape and Urban Planning*, 47 (3-4), pp 115-128.

Neuman, W.L., 1994: *Social Research Methods: Qualitative and Quantitative Approaches*, 2nd ed, Allyn and Bacon, Boston.

Neutze, M., 1978: *Australian Urban Policy*, George Allen and Unwin, Sydney.

New South Wales State Government, 1991: *TCM Coordinating Natural Resource Management in NSW*, Discussion Paper.

Newton, N.T., 1971: *Design on the Land - The Development of Landscape Architecture*, Belknap Press/Harvard University Press, Cambridge, MA.

Niebanck, P.L., 1992: "Reshaping Undergraduate Education", in *Journal of Planning Education and Research*, pp 227-231.

Niebanck, P.L., 1993: "The Shape of Environmental Planning Education", in *Environment and Planning B*, 20, pp 511-518.

Northern Queensland Afforestation Program Joint Board & North Queensland Afforestation Association Inc (NQAPJB/NQAA), 2000: *Annual Report*, 1999/2000.

NQ Joint Board, *Annual Reports*, 1997/98; 1995/96; 1994/95; 1993/94.

Office of Local Government, (OLG), 1994: *Strategic Local Government Approaches to Infrastructure*, Commonwealth Department of Human Services and Health, AGPS, Canberra.

Ostrom, E., 1990: *Governing the Commons: The Evolution of Institutions for Collective Action*, Cambridge University Press, Cambridge.

Ostrom, E., 2000: "Collective Action and the Evolution of Social Norms", in *Journal of Economic Perspectives*, 14 (3), pp 137-158.

- Ostrom, E. and Gardner, R., 1993: "Coping with Asymmetries in the Commons: Self-Governing Irrigation Systems Can Work", in *Journal of Economic Perspectives*, 7 (1), pp 93-112.
- Ostrom, E., Burger, J., Field, C.B., Norgaard, R.B. and Policansky, D., 1999: "Revisiting the Commons: Local Lessons, Global challenges", in *Science*, Vol 284, 9 April, 1999, pp 278- 282.
- Owen, L.A., & Unwin, T., (eds), 1997: *Environmental Management: Readings and Case Studies*, Blackwell, Oxford.
- Painter, M., 1998: *Collective Federalism: Economic Reform in Australia in the 1990s*, Cambridge Uni Press, Cambridge.
- Parkin, A., 1982: *Governing the Cities: The Australian Experience in Perspective*, Macmillan, Melbourne.
- Pike, J., 1979: "The Development of the Landscape Architecture Profession in Australia", in *Landscape Architecture*, 2/1979, Journal of the Australian Institute of Landscape Architects, pp 85-87.
- Plowman, K., Ferrier, T. & Tilden, J., 1993: *Getting Your Head Around Land Use Planning*, Vol 1: The Government Planning Process, National Threatened Species network (Qld), Maleny.
- Popper, F.J., 1993: "Rethinking Regional Planning", in *Social Science and Public Policy*, 30 (6), pp 46-54.
- Porter, D.R. & Salvesen, D.A., (eds), 1995: *Collaborative Planning for Wetlands and Wildlife - Issues and Examples*, Island Press, Washington DC.
- Power, J., (ed), 1990: *Public Administration in Australia - a watershed*, Hale & Iremonger, Sydney.
- Prasser, S. & Minnery, J., (eds), 1992: *Machinery for Managing Growth in South-East Queensland*, based on Proc of Joint RIPAA & RAPI Seminar, 20 Nov 1992, RIPAA (Qld).
- Punch, K.F., 1998: *Introduction to Social Research - Quantitative and Qualitative Approaches*, Sage Pub Inc, London.

Purdy, J., (ed), 1996: "The Future of Regional Governance", special edition of *National Civic Review*, 85 (2), Spring-summer, 1996.

Putnam, R.D., 1999: "The Prosperous Community: Social Capital and Public Life", in *The American Prospect*, 13, Spring 1993, <http://www.prospect.org/cgi-bin/printable.cgi>, (site visited 22 Apr 2000).

Quarrie, J., (ed), 1992: *Earth Summit 1992: the UN Conference on Environment and Development, Rio de Janeiro, 1992*, The Regency Press, London.

Queensland Department of Environment and Heritage (QDEH), 1994: *Parks of the Scenic Rim: Draft Management Framework*, Brisbane.

Queensland Department of Environment & Heritage (QDEH), 1993: *Brisbane River Management - Public Information Paper*, Sept.

Queensland Department of Local Government & Planning, (QDLG&P), 1996: *Population Projections for Queensland*, Brisbane.

Queensland Government Gazette (QGG), 1989: *The Town Planning Scheme for the City of Logan - Part A, The Strategic Plan*, QGG Vol CCLXXXIX (No 93), 17th December, 1988, Government Printer, Brisbane.

Queensland State Government, 1988: *Queensland's QUANGOS - The Role of Statutory Authorities in State Development*.

Queensland State Government, 1991: *Integrated Catchment Management - A Strategy for Achieving the Sustainable and balanced Use of Land, Water and Related Biological Resources*, DPI, Brisbane.

Queensland State Government, 1994: *Guidelines for the Formation of a Catchment Coordinating Committee*, DPI, Brisbane.

Queensland State Government, 1997: *Review of Integrated Catchment Management and Landcare Arrangements - Report and Recommendations Paper*, DNR, Brisbane.

Queensland State Government, 1999: *Integrated Catchment Management & Local Government*, Information Bulletin No 3, Jan 1999.

Queensland State Government, 2000: *Governing Queensland - Welcome Aboard: A Guide for Members of Queensland Government Boards, Committees and Statutory Authorities*, 2nd ed, GOPRINT, Brisbane.

Ravetz, J., 2000: *City-Region 2000: Integrated planning for a sustainable environment*, Earthscan Pub Ltd, London.

Redland Shire Council. (RSC), undated: *Corporate Plan for the Shire of Redland*.

Redland Shire Council. (RSC), 1997: *Draft Planning Scheme*.

Rees, W., 1999: "Scale, complexity and the conundrum of sustainability", Ch 5 in Kenny, M. & Meadowcroft, J., (eds), 1999: *Planning Sustainability*, Routledge, London.

Regional Coordination Committee (RCC), 2000: *South East Queensland Regional Framework for Growth Management 2000*, SEQ 2001 Regional Resource Unit.

Regional Landscape Strategy Advisory Committee (RLSAC), 2001: *Regional Landscape Values: Guidelines for their protection in local government planning schemes in south east Queensland*, report, DNRM and EPA, Brisbane.

Regional Planning Advisory Group (RPAG), 1991: *Principles, Issues and Objectives - A Compilation of Submissions Received in Relation to the December 1990 SEQ 2001 Conference*, Queensland Department of Housing, Local Government and Planning.

Regional Planning Advisory Group (RPAG), 1993a: *Rivers and Coastal Management*, Policy Paper of the SEQ2001 Project, Jul, Queensland Department of Housing, Local Government and Planning.

Regional Planning Advisory Group (RPAG), 1993b: *Open Space and Recreation*, Policy Paper of the SEQ2001 Project, Jul, Queensland Department of Housing, Local Government and Planning.

Regional Planning Advisory Group (RPAG), 1994: *The Regional Framework for Growth Management for South East Queensland*, Queensland Department of Housing, Local Government and Planning.

Resource Assessment Commission (RAC), 1992: *Coastal Zone Inquiry - Draft Report: Summary and Interim Conclusions*, AGPS, Canberra.

Resource Assessment Commission (RAC), 1993: *Coastal Zone Inquiry - Final Report*, AGPS, Canberra.

Reynolds, M., 1981: "Aspirations, Frustrations & Conflict at the Political decision Making Level", in *Planner*, 21(4), December 1981, pp 50-55.

Reynolds, M.F., 1989: "Recognising the Role of Local Government", Ch5 in Coaldrake, P. & Nethercote, J.R., (eds), 1989: *What should Governments Do?*, Hale & Iremonger, Sydney.

Richardson, B.J., & Boer, B.W., 1995: "Federal Public Inquiries and Environmental Assessment", in *Australian Journal of Environmental Management*, 2(2), Jun 1995, pp90-103.

Rickson, R.E., Burdge, R.J. & Amour, A., (eds), 1989: *"Integrating Impact Assessment into the Planning Process: International Perspectives and Experience"*, Assessment Bulletin, 8 (1 & 2), International Association for Impact Assessment.

Robson, L., 1992: *Looking Forward: The Next Step - A guide to preparing a local conservation strategy*, Municipal Conservation Association & Department of Conservation and Natural Resources (Victoria).

Rogers, A., 1993: *The Earth Summit: A Planetary Reckoning*, Global View Press, Los Angeles.

Rookwood, P., 1995: "Landscape Planning for Biodiversity", in *Landscape and Urban Planning*, 31, pp 379-385.

Royal Australian Planning Institute (RAPI), 1997: *Ecological Sustainable Development (ESD) Policy*, Oct 1997, RAPI.

Royal Australian Planning Institute (RAPI), 1999: *Members Handbook 1999*, RAPI.

Sarre, R. & Treuren, G., 2001: "Triple Bottom Line: Sustainability & Economic & Social Management" in *Environment South Australia*, 8(4), pp 8-9.

Sarre, R. & Treuren, G., 2002: *Triple Bottom Line: Balancing social, environmental and financial outcomes in business*, Triple Bottom Line Research Group, Centre for Applied Economics, University of South Australia

Schnurr, J., 1998: "Introduction", in Schnurr, J. & Holtz, S., (eds), 1998: *The Cornerstone of Development: Integrating Environmental, Social, and Economic Policies*, International Development Research Centre, Ottawa and Lewis Pub, Boca Raton, Florida.

Schwandt, T.A., 1998: "Constructivist, Interpretivist Approaches to Human Inquiry", Ch 7 in Denzin and Lincoln, (eds), 1998a: *The Landscape of Qualitative Research - Theories and Issues*, Vol 1, Sage Pub, California.

Scott, A.J., 1996: "Regional Motors of the Global Economy", in *Futures*, 28(5), pp 391-411.

Seale, C., 1999: *The Quality of Qualitative Research*, Sage Pub Inc, London.

Self, P., 1989: "Redefining the Role of Government", Ch 1 in Coaldrake, P. & Nethercote, J.R., (eds), 1989: *What should Governments Do?*, Hale & Iremonger, Sydney.

Self, P., 1995: "Alternative Urban Policies: The Case for Regional Development:", Ch 11 in Troy, P., (ed), 1995: *Australian Cities - Issues, Strategies and Policies for Urban Australia in the 1990s*, Cambridge Uni Press, Cambridge.

Self, P., 1997: "The Future of Australian Local Government", Ch 15 in Dollery, B. & Marshall, N., (eds), 1997: *Australian Local Government - Reform and Renewal*, Macmillan, Melbourne.

Selin, S. & Chavez, D. 1995: "Developing a Collaborative Model for Environmental Planning and Management", in *Environmental Management*, 19(2), pp 189-195.

Selman, P.H. & Doar, N.R., 1991; "A Landscape Ecological Approach to Countryside Planning", in *Planning Outlook*, 34(2), pp 83-88.

Selman, P.H., 1996: *Local Sustainability - Managing and Planning Ecologically Sound Places*, Paul Chapman Publishing, London.

Selman, P.H., 1999: "Three decades of environmental planning: what have we really learnt?", Ch 7 in Kenny, M. & Meadowcroft, J., (eds), 1999: *Planning Sustainability*, Routledge, London.

Selman, P.H., 2000: *Environmental Planning; the Conservation and Development of Biophysical Resources*, 2nd ed, Sage Pub Ltd, London.

Simon, S.L. & Kahn, H., (eds) 1984: *The Resourceful Earth - A Response to Global 2000*, Basil Blackwell, England.

Simpson, R., Petroschevsky, A., Gaschk, K. & Rutherford, S., 1995: *The Use of Ecological Footprint Methodology for Regional Analysis*, paper presented to Regional Science Conf, Brisbane, Dec 1995.

Simpson, R., Petroschevsky, A., and Lowe, I., 2000: "An Ecological Footprint Analysis for Australia", in *Australian Journal of Environmental Management*, 7(1), Mar 2000, pp 11-18.

Singh, K. & Ballabh, V., (eds), 1996: *Cooperative Management of Natural Resources*, Sage Publications, New Delhi.

Slocombe, D.S., 1993a: "Implementing Ecosystem-based Management: Development of Theory, Practice, and Research for Planning and Managing a Region", in *BioScience*, 43(9), pp 612-622.

Slocombe, D.S., 1993b: "Environmental Planning, Ecosystem Science, and Ecosystem Approaches for Integrating Environment and Development", in *Environmental Management*, 17(3), pp 289-303.

Slocombe, D.S., 1998a: "Lessons from experience with ecosystem-based management", in *Landscape and Urban Planning*, 40(1-3), pp 31-39.

Slocombe, D.S., 1998b: "Defining Goals and Criteria for Ecosystem-Based Management", in *Environmental Management*, 22(4), pp 483-493.

Slocombe, D.S., 2000: "Resources, people and places: resource and environmental geography in Canada 1996-2000", in *The Canadian Geographer*, 44(1), pp 56-66.

Smith, R.F.I. & Weller, P., (eds), 1978: *Public Service Inquiries in Australia*, Uni of Qld Press, St Lucia.

So, F.S., 1984: "Strategic Planning: reinventing the wheel?", in *Planning*, 50(2), pp 16-20.

So, F.S., Hand, I. & McDowell, B.D., (eds), 1986: *The Practice of State & Regional Planning*, American Planning Association, Chicago.

Social & Ecological Assessments Pty Ltd, 1987: *Institutional and Legislative Aspects of the Integration of Land and Water Resource Management in Australia*, report to Australian Water Resources Council Planning Committee.

Southern Regional Organisation of Councils (SouthROC), 1995: *SouthROC Sub Regional Structure Planning Study*, March 1995.

Stake, R.E., 1994: "Case Studies", Ch 14 in Denzin, N.K. & Lincoln, Y.S., (eds), 1994: *Handbook of Qualitative Research*, Sage Pub, California.

State of the Environment Advisory Council, (SoEAC) 1996a: *Australia State of the Environment:1996*, DEST, CSIRO Pub, Melbourne.

State of the Environment Advisory Council, (SoEAC) 1996b: *Australia State of the Environment:1996 - Executive Summary*, DEST, CSIRO Pub, Melbourne.

Steering Committee on Voluntary Regional Co-operation, 1990: *Australian Local Government and Voluntary Regional Co-operation*, Report to Minister for Local Government.

Stein, J.M., (ed), 1995: *Classic Readings in Urban Planning - An Introduction*, McGraw-Hill, New York.

Stein, S.M. & Harper, T.L., 1996: "Planning Theory for Environmentally Sustainable Planning", in *Geography Research Forum*, 16, pp 80-101.

Steiner, F., 1991: *The Living Landscape - An Ecological Approach to Landscape Planning*, McGraw-Hill, New York.

Steiner, F., Blair, J., McSherry, L., Guhathakurta, S., Marruffo, J. & Holm, M., 2000: "A watershed at a watershed: the potential for environmentally sensitive area protection in the upper San Pedro drainage Basin (Mexico and USA)", in *Landscape and Urban Planning*, 49 (3-4), pp 129-148.

- Stewart, J., 1983: *Local Government: The Conditions of Local Choice*, Allen & Unwin, London.
- Stimson, R., 1994: "An Evaluation of the South East Queensland 2001 Study", in *Queensland Economic Forecasts and Business Review*, 3(1), March 1994, QUT School of Economic and Public Policy and Australian Centre in Strategic Management, pp 47-60.
- Stolton, S. & Dudley, N., (eds), 1999: *Partnerships for Protection - New Strategies for Planning and Management for Protected Areas*, Earthscan, London.
- Strauss, A. & Corbin, J., 1990: *Basics of Qualitative Research - Grounded Theory Procedures and Techniques*, Sage Pub Inc, California.
- Strauss, A. & Corbin, J., (eds), 1997: *Grounded Theory in Practice*, Sage Pub Inc, California.
- Study of Critical Environmental Problems (SCEP), 1970: *Man's Impact on the Global Environment*, MIT, The MIT Press, Cambridge.
- Study of Man's Impact on Climate (SMIC), 1971: *Inadvertent Climate Modification*, MIT, The MIT Press, Cambridge.
- Sussman, C., (ed), 1976: *Planning the Fourth Migration: The Neglected Vision of the Regional Planning Association of America*, The MIT Press, Cambridge.
- Sussman, G., 1997: *Communication, Technology, and Politics in the Information Age*, Sage Pubs, California.
- SustainAbility Ltd, 2002: *The Triple Bottom Line in Action*, a working paper, <http://www.sustainability.com/>, (site visited 28 Feb, 2002).
- Swanson, F.J. & Greene, S., 1999: "Perspectives on Scientists and Science in Bioregional Assessments", Ch 4 in Johnson, K.N., Swanson, F.J., Herring, M. & Greene, S., (eds), 1999: *Bioregional Assessments - Science at the Crossroads of Management and Policy*, Island Press, Washington DC.
- Syme, G.J., Butterworth, J.E. and Nancarrow, B.E., 1994: *National Whole Catchment Management*, The Land and Water Resources Research and Development Corporation, Occasional Paper 1/94.

Taylor, M., 2000: "Communities in the Lead: Power, Organisational Capacity and Social Capital", in *Urban Studies*, 37(5-6), pp 1019-1035.

Taylor, N., 1998: *Urban Planning Theory since 1945*, Sage Pubs, London.

Taylor, S.J., & Bogdan, R., 1998: *Introduction to Qualitative Research Methods - A Guidebook and Resource*, 3rd ed, John Wiley, New York.

Teoh, C. & Booth, S., 1989: "TCM in NSW as a Community Involvement Process", paper to *TCM in NSW - Is it Working?* Workshop, Uni of Wollongong, Jul 1989.

The Ecologist, 1972: *A Blueprint for Survival*, Penguin Books, Great Britain.

The Longwave and Social Cycles Resource Centre, 1995: *The Longwave - An Introduction*, Longwave Press, Toronto.

Therivel, R., Wilson, E., Thompson, S., Heaney, D. & Pritchard, D., 1992: *Strategic Environmental Assessment*, Earthscan, London.

Therivel, R., 1995: "Environmental Appraisal of development plans: current status", in *Planning Practice and Research*, 10, pp223-234.

Thomas, J.W., 1999: "Learning from the Past and Moving to the Future", Ch 1 in Johnson, K.N., Swanson, F.J., Herring, M. & Greene, S., (eds), 1999: *Bioregional Assessments - Science at the Crossroads of Management and Policy*, Island Press, Washington DC.

Tinley, K.L., 1986: "Ecological Regions of Western Australia: The Basis for Coordinated Planning and Management of Conservation and Development", in McDavitt, C., (ed), 1986: *Towards a State Conservation Strategy - Invited Review Papers*, Bulletin 251, Department of Conservation and Environment, Western Australia.

Toffler, A., 1980: *The Third Wave*, Collins, London.

Toffler, A. & Toffler, H., 1993: *War and Anti-War: Survival at the Dawn of the 21st Century*, Little Brown & Co.

- Toffler, A. & Toffler, H., 1994: *Creating A New Civilization - The Politics of the Third Wave*, Turner Pub Inc, Atlanta.
- Troy, P., (ed), 1995: *Australian Cities - Issues, Strategies and Policies for Urban Australia in the 1990s*, Cambridge Uni Press, Cambridge.
- Tsakalos, B., 1995: "Reforming the Urban Landscape - Technological innovation and urban form", in *Urban Futures*, 18, pp 61-68.
- Tucker D., 1982: "The Burdekin River Authority 1950-1980", in *Local Government in Queensland*, Vol 2, Part 3, AIUS.
- Tucker D., 1995: "Local Government", Ch 3 in Henningham, J., (ed), 1995: *Institutions in Australian Society*, Oxford Uni Press, Melbourne.
- Turner, T., 1998: *Landscape Planning and Environmental Impact Design*, 2nd ed, UCL Press, London.
- United Nations Centre for Human Settlement (UNCHS) [Habitat], 1996: *Implementation of the Habitat Agenda*, <http://www.unhabitat.org/>, (site visited 10 Mar 2000).
- United Nations Commission on Sustainable Development (UNCSD), 2000: *Earth Summit 2002*, non paper of UN CSD NGO Steering Committee, 2 Feb 2000, <http://www.earthsummit2002.org/>, (site visited 10 Mar 2000).
- United Nations Division for Sustainable Development (UNSD), 1999: *Agenda 21*, 10 Aug 1999, <http://www.un.org/esa/sustdev/agenda21>, (site visited 12 Mar 2000).
- United States Department of Agriculture (USDA) Forest Service, 1995: *Collaborative Planning - Sustaining Forests and Communities*, Report of the National Workshop, Report FS-578, USDA, Washington DC.
- Vamplew, W., 1987: *Australians: Historical Statistics*, Fairfax, Syme & Weldon, Sydney.
- Victorian Office of Local Government, 1991: *Municipal Resource Sharing: A Practical View*, Local Government Minister's Conference & Commonwealth Office of Local Government.

- Walker, P., & Simo, M., 1994: *Invisible Gardens - The Search for Modernism in the American Landscape*, MIT Press, Cambridge.
- Walker, J.M., Gardner, R., Herr, A. and Ostrom, E., 2000: "Collective Choice in the Commons: Experimental results on Proposed Allocation Rules and Votes", in *The Economic Journal*, 110, January 2000, pp 212-234.
- Walters, C., 1986: *Adaptive Management of Renewable Resources*, Macmillan Publishing Company, New York.
- Ward, B. and Dubos, R., 1972: *Only One Earth*, Penguin Books, Harmondsworth.
- Weller, P., (ed), 1994: *Royal Commissions and the Making of Public Policy*, Centre for Australian Public Sector Management, Macmillan, Melbourne.
- Weller, P., Forster, J. and Davis, G., (eds) 1993: *Reforming the Public Service*, Centre for Australian Public Sector Management, Macmillan, Melbourne.
- Westley, F., 1995: "Governing Design: The Management of Social Systems and Ecosystems Management", Ch 9 in Gunderson, L.H., Holling, C.S. & Light, S.S., (eds), 1995: *Barriers and Bridges to Renewal of Ecosystems and Institutions*, Columbia University Press, New York.
- Wettenhall, R.L., 1983: "Quangos, Quagos and the Problems of Non-Ministerial Organisation", in Curnow, G.R. & Saunders, C.A., (eds), 1983: *QUANGOS - The Australian Experience*, Hale & Iremonger, Sydney.
- Wiggins, D., 1993: "Professional challenges in local planning", Ch 1 in Freestone, R., (ed), 1993: *Spirited Cities - Urban Planning, Traffic and Environmental Management in the Nineties*, The Federation Press, Sydney.
- Wilkin, D.C., 1996: "Accounting for sustainability: challenges to landscape professionals in an increasingly unsustainable world", in *Landscape and Urban Planning*, 36, pp 217-227.
- Wilkinson, R. & Barr, N., 1993: *Community Involvement in Catchment Management: An evaluation of community planning and consultation in the Victorian Salinity Program*, Department of Agriculture, Victoria.

Williams, R, 1985: "How we make the future", in *Living in the Future*, Asimov, I, (ed), Multimedia Pub (UK) Ltd, pp 268-283.

Winter, I., (ed), 2000: *Social Capital and Public Policy in Australia*, Australian Institute of Family Studies, Melbourne.

Witherby, A., 1992: "Planning Education: Philosophy, Theory, Technique and Application - Flavouring for Local Government", in *New Planner*, August, pp 12-13.

World Commission on Environment and Development (WCED), 1987: *Our Common Future*, Oxford Uni Press, Oxford, (Brundtland Study).

World Commission on Environment and Development (WCED), 1990: *Our Common Future*, Australian edition, Oxford Uni Press, Oxford.

WRI/IUCN/UNEP, 1992: *Global Biodiversity Strategy - Guidelines for Action to Save, Study, and Use Earth's Biotic Wealth Sustainably and Equitably*.

Yaffee, S.L., 1998: "Cooperation: A Strategy for Achieving Stewardship Across Boundaries", Ch 14 in Knight, R.L. & Landres, P.B., (eds), 1998: *Stewardship Across Boundaries*, Island Press, Washington DC.

Yaro, R.D., 2000: "The Region: Metropolis, City and Town", Ch 2 in Leccese, M. & McCormick, K., (eds), 2000: *Charter of the New Urbanism*, McGraw Hill, New York.

Yencken, D, 1986: *Information Technology and Australian Cities: a promethean dilemma*, Occasional Paper No 5, Commission for the Future, 14p.

Yin, R.K., 1994: *Case Study Research - Design and Methods*, 2nd ed, Sage Pub, California.

Yin, R.K., 1998: "The Abridged Version of Case Study Research: Design and Method", Ch 8 in Bickman, L. & Rog, D.J., (eds), 1998: *Handbook of Applied Social Research Methods*, Sage Pub Inc, California.

Young, A.R.M., 1996: *Environmental Change in Australia Since 1788*, Oxford Uni Press, Oxford.

Young, M.D., Cocks, K.D. & Humphries, S.E., undated (1990?): *Australia's Environment and Its natural Resources: An Outlook*, Institute of Natural resources and Environment, CSIRO.

Zube, E.H., 1998: "The Evolution of a Profession", in *Landscape and Urban Planning*, 42, pp 75-80.

_____, 1981: *The Macquarie Dictionary*, Macquarie Library Pty Ltd, Sydney.

_____, 1992: *Intergovernmental Agreement on the Environment*, (IGAE), May, 1992.

Legislation & Regulations

New Zealand Government: *Resource Management Act 1991* as amended (RMA)

NSW Government: *Environmental Planning and Assessment Act 1979* as amended

Queensland Government: *Local Government Act 1936* as amended (LGA36)

Queensland Government: *Local Government Act 1993* as amended (LGA93)

Queensland Government: *Local Government (Planning and Environment) Act 1990*, as amended

Queensland Government: *Integrated Planning Act 1997* as amended (IPA)

Queensland *Local Government (Areas) Regulations 1995* as amended

Minutes

Environmental Advisory Sub-Committee, 7 Dec 1988

Logan River Management Coordinating Committee (LRMCC), Mar 1989 - Apr 1995

Logan and Albert Rivers Management Coordinating Committee (LARMCC), Jun 1995 - Oct 1999

Logan River Technical Support Group (LRTSG), Apr 1989 - May 1995

Logan and Albert Rivers Technical Support Group (LARTSG), Jun 1995 - Aug 1998

Logan River Community Consultative Committee (LRCCC), Nov 1993 - Feb 1995

Logan River and Albert Rivers Community Consultative Committee (LARCCC), Oct 1998 - May 1999

Senior Planners Liaison Group – Logan River Strategy, Dec 1992 – Mar 1997

SouthROC meeting, Nov 1992

Newspaper Articles

The Logan City Express (LCE), 14 July 1987

The Albert and Logan News (A&LN), 26 August 1987

The Albert and Logan News (A&LN), 30 September 1987

The Albert and Logan News (A&LN), 28 October 1987

The Albert and Logan News (A&LN), 25 November 1987

The Albert and Logan News (A&LN), 11 March 1988

The Albert and Logan News (A&LN), 9 June 1989

The Albert and Logan News (A&LN), 8 December 1989

The Albert and Logan News (A&LN), 22 June 1990

The Albert and Logan News (A&LN), 18 July 1990

The Albert and Logan News (A&LN), 17 August 1990

The Albert and Logan News (A&LN), 27 March 1992

The Albert and Logan News (A&LN), 1 April 1992

The Albert and Logan News (A&LN), 6 November 1992

The Albert and Logan News (A&LN), 4 June 1993

The Albert and Logan News (A&LN), 6 December 1996

Courier Mail, 28 July 1990

Courier Mail, 28 March 1992

Gold Coast Bulletin, 28 March 1992

Key State of the Environment Issues - Australia

Key Issue*	Sub Issue (Key Threats To Sustainability)*	Key Findings SoER 2001
A systems perspective		
Human Settlements	Livability of remote indigenous communities	-
	Livability of inland towns	-
	Livability of coastal settlements	-
	Coastal development	-
	Metabolism of big cities	-
	Livability of big cities	-
Biodiversity	Effects of human population & consumption	-
	Condition of ecosystems	-
	Distribution and abundance of species	
	Change in genetic diversity	-
	Land clearance and related activities	-
	Impacts of introduced species	-
	Harvesting of native species	
	Lack of knowledge of biodiversity	-
	Effective conservation measures external to reserves	+
	Adequacy of protected areas	+
Integrated ecosystem-based management of natural resources		
Atmosphere	Air quality data	
	Indoor Air Quality	
	Stratospheric ozone loss	
	Urban air quality	+
	Enhanced greenhouse effect	-
	Regional emissions	+
Land Resources	Land clearance	-
	Agriculture (degradation)	-
	Rangelands	-
	Cropping lands (degradation)	-
	Forests	+
	Data	?
Inland Waters	Dryland salinity	-
	Wetlands	
	Over-allocation of water to consumption	-
	Irrigation	-
	Endangered species	
	Nutrients	-
	Water weeds	-
	Sediments	-
	Monitoring	?
Data	?	
Estuaries and the Sea	State of seagrass	
	Fisheries	
	Integrated ecosystem-based management	+
	Effects of nutrients	-
	Effects of coastal development	-
	State of mangroves	-
	Effects of introduced pests	-
	Coral reefs	-

Key Issue*	Sub Issue (Key Threats To Sustainability)*	Key Findings SoER 2001
	Lack of representative marine protected areas	
	Lack of knowledge	?
Natural & Cultural Heritage	Knowledge about heritage places and objects	?
	Physical condition of heritage places and objects	+
	State of traditional indigenous languages	-
	Survival of heritage in areas of significant population change	-
	Laws to protect heritage places and objects	
	Community involvement	?
	Impact of tourism	

* Key and Sub Issue Source: SoEAC, 1996a

KEY (for SoER 2001 findings)

(Source: ASoEC, 2001)

- + favourable news
- unfavourable news
- ? uncertain news

The Goal, Core Objectives and Guiding Principles of the National Strategy for Ecologically Sustainable Development

Goal

Development that improves the total quality of life, both now and in the future, in a way that maintains the ecological processes on which life depends.

Core Objectives

- to enhance individual and community well-being and welfare by following a path of economic development that safeguards the welfare of future generations.
- to provide for equity within and between generations.
- to protect biological diversity and maintain essential ecological processes and life-support systems.

Guiding Principles

- Decision-making processes should effectively integrate both long and short-term economic, environmental, social and equity considerations.
- Where there are threats of serious or irreversible environmental damage, lack of full scientific certainty should be used as a reason for postponing measures to prevent environmental degradation.
- The global dimension of environmental impacts of actions and policies should be recognised and considered.
- The need to develop a strong, growing and diversified economy which can enhance the capacity for environmental protection should be recognised.
- The need to maintain and enhance international competitiveness in an environmentally sound manner should be recognised.
- Cost-effective and flexible policy instruments should be adopted, such as improved valuation, pricing and incentive mechanisms.
- Decisions and actions should provide for broad community involvement on issues which affect them.

Source: Commonwealth of Australia, 1992: *National Strategy for Ecologically Sustainable Development*, AGPS, page 8.

LOGAN AND ALBERT RIVERS CATCHMENT CHRONOLOGY

- 1985** QIT Landscape Planning Study: "Logan City Watercourse Management Strategy" completed (included major policy recommendation for "ADJACENT SHIRES CO-OPERATION" for management of Logan River).
- 1986** "Watercourse Management Strategy" adopted by Logan City Council and incorporated into their 1988 Strategic Plan.
- 1987(Oct)** Preliminary meeting of relevant local authorities initiated by Logan City Council to discuss future cooperation.
- 1988 (Dec)** Agreement to establish Logan River Management Coordinating Committee between: Albert Shire; Beaudesert Shire; Logan City; Redland Shire; Gold Coast Waterways Authority. Agreement also to establish a Technical Support Group.
- 1989 (Mar)** Inaugural meeting of LRMCC
- 1989 (Apr)** Inaugural meeting of LRTSG
- 1990 (Nov)** Inaugural Logan River Week
- 1992 (Nov)** LRMCC established as a sub-committee of Southern Regional Organisation Councils (SouthROC)
- 1993 (Jun)** First Community River Search Workshop
- 1993 (Nov)** River Forum
- 1993 (Nov)** Inaugural meeting of LRCCC
- 1994 (Aug)** Boonah Shire joins LRMCC
- 1994 (Nov)** Boonah Shire Council becomes a full member of the LRMCC
- 1995 (Mar)** Gold Coast City Council and Albert Shire Council amalgamate 22/3/95
- 1995 (Apr)** LRMCC resolves to incorporate the Albert River catchment Committee retitled: Logan & Albert Rivers Management Coordinating Committee (LARMCC)
- 1996** LARMCC resolve to prepare a series of coordinated strategic policies for management of the catchment
- 1997** LARMCC resolve to re-establish a Community Consultative Committee and undertake a comprehensive identification of potential stakeholders
- 1997 (Nov)** Inaugural meeting of teachers in the Logan and Albert Rivers Catchment to establish
- 1998 (Oct)** Interim LARCCC established
- 1998 (Oct)** Teachers Network host Catchment Congress at Kingston Butter Factory
- 1998(Dec)** Community database of environmental resources for the Logan-Albert catchment went online (web site: <http://www.ens.edu.au/larcmp/>)
- 1999(Aug)** Merger into the Logan-Nerang Water Quality Management Committee as part of the SEQRWQMS activities.

Reflection of Research Themes in Selected Australian Local Government Association Policies

Principal Research Themes Policy/ Sub Policy Statement	Cooperative approach	Planning activity	Regional level	Environmental Issues
<i>The way our communities are planned and developed is a subject which demands involvement of the community and concern, thought action by all spheres of government, (Sub policy 6.1: Community Participation, Policy 6: Planning and Development)</i>	✓	✓		
<i>Strategic planning for urban communities must be carried out at a regional level by a partnership of State and Local Governments acting cooperatively with any Commonwealth involvement, (Sub Policy 7.3: Planning and Managing Towns and Cities (part), Policy 7: Urban Affairs)</i>	✓	✓	✓	
<i>Local Government acknowledges the value of working collectively and cooperatively on a regional level, based on a community of interests, to realise the full potential and effectiveness of local decision making as part of the wider process of governance of the nation, (Sub Policy 7.10: Collective and Regional Responsibilities, Policy 7: Urban Affairs)</i>	✓	✓	✓	*
<i>There are efficiencies that can be obtained by cooperatively working on urban issues. The partnership between key players must address the issue of overlap, duplication and deficits in infrastructure and services, and determine which sphere of government, private or community sector is most efficiently able to deliver services within shared policy goals, (Sub Policy 7.12: Efficiency, Policy 7: Urban Affairs)</i>	✓	✓		
<i>ALGA will encourage the development of regional planning based on ILAP strategy plans by articulating via ALGA, State Associations and Regional Organisations of Councils to local Governments the benefits of integrated strategic planning both local and regional, (Sub Policy 7.19.2 of Sub policy 7.19: Planning Urban Areas, Policy 7: Urban Affairs)</i>	*	✓	✓	
<i>ALGA will promote effective utilisation of strategic planning linked to effective corporate planning and management by Local Governments in metropolitan and urban regions, (Sub Policy 7.19.3 of Sub Policy 7.19: Planning Urban Areas, Policy 7: Urban Affairs)</i>		✓	✓	
<i>ALGA will seek an improved national approach to planning and implementing urban development in regional and local areas, including coordination between all spheres of government; establishing broad parameters for locating urban development, transport, employment and other service corridors; and protection of key environmental features, (Sub Policy 7.20.1 of Sub Policy 7.20: Balanced development, Policy 7: Urban Affairs)</i>	✓	✓	✓	✓

Principal Research Themes Policy/ Sub Policy Statement	Cooperative approach	Planning activity	Regional level	Environmental Issues
<p><i>ALGA seeks the development of urban communities that are environmentally sustainable, (Sub Policy 7.21: Sustainable Urban Environments, Policy 7: Urban Affairs) - including:</i></p> <p><i>ALGA will seek increased participation in the national debate to resolve environmental issues affecting urban areas, (Sub Policy 7.21.1);</i></p> <p><i>ALGA will actively seek cooperation and coordination with the Commonwealth Government and its agencies in urban environmental issues, (Sub Policy 7.21.2);</i></p> <p><i>ALGA will seek full integration of the principles of ESD and environmental sustainability into Commonwealth Government decision making processes, (Sub Policy 7.21.3).</i></p>	✓	*		✓
<p><i>ALGA will develop improved national networks with Voluntary Regional Organisations of Councils (VROCs) and other regional organisations, (Sub Policy 7.25.1 of Sub Policy 7.25: Opportunities for Local Government, Policy 7: Urban Affairs)</i></p>	✓	*	✓	
<p><i>ALGA will impress on the Commonwealth Government the need to recognise Local Government's desire for, and need to form, regional groupings which depend on the functions to be addressed, (Sub Policy 7.25.2 of Sub Policy 7.25: Opportunities for Local Government, Policy 7: Urban Affairs)</i></p>	✓	*	✓	
<p><i>Noting the critical impact that physical and social infrastructure has on providing quality of life in urban areas, ALGA seeks a partnership approach between the spheres of government, the community and the private sector in coordinating the timely provision of infrastructure, (Sub Policy 7.28: Coordinating the Provision of Infrastructure, Policy 7: Urban Affairs)</i></p>	✓	✓		✓
<p><i>The level of regional cooperation amongst Councils is increasing along with the development of regional management strategies and long-term planning, (Introductory statement to Policy 8; Rural Affairs)</i></p>	✓	✓	✓	*
<p><i>Local government must provide leadership for regional and local economic and employment development in rural Australia based on strategic regional; and local planning processes, (Sub Policy 8.4.1 of Sub Policy 8.4: Regional and Economic Development, Policy 8: Rural Affairs)</i></p>		✓	✓	
<p><i>Vehicles for regional development must utilise existing or newly established frameworks that are locally driven by key stakeholders, and not by external agendas, (Sub Policy 8.4.4 of Sub Policy 8.4: Regional and Economic Development, Policy 8: Rural Affairs)</i></p>	*		✓	
<p><i>Local Government in partnership with State and Commonwealth Governments, must play a greater role in achieving sustainable development. Governments must manage their environmental responsibilities effectively but the private sector and community groups must also take responsibility, (Sub Policy 8.5: Natural resource Management, Policy 8: Rural Affairs)</i></p>	✓			✓
<p><i>There must be greater collaboration between all spheres of government, non government organisations, and other major players in the development of rural policy, (Sub Policy 8.7.1 of Sub Policy 8.7: Integration, Consultation and Information, Policy 8: Rural Affairs)</i></p>	✓			
<p><i>To improve coordination and cooperation between spheres of government and the private sector in the delivery of programs and services, (Policy Objective, Policy 9: Environment)</i></p>	✓			✓

<div style="text-align: center;">Principal Research Themes</div> <div style="text-align: center;">Policy/ Sub Policy Statement</div>	Cooperative approach	Planning activity	Regional level	Environmental Issues
<i>Local Government will cooperate with State and Commonwealth Governments to ensure decision making processes recognise Local Government matters of national interest, (Sub Policy 9.2.1 of Sub Policy 9.2: Role in National Environment Policy, Policy 9: Environment)</i>	✓			✓
<i>Local Government is committed to the integration of environmental issues into Local Government planning, management and operations, (Sub Policy 9.2.2 of Sub Policy 9.2: Role in National Environment Policy, Policy 9: Environment)</i>		✓	*	✓
<i>Local Government supports ecologically sustainable development as the basis for policy development as provided by the guiding principles, (Sub Policy 9.2.3 of Sub Policy 9.2: Role in National Environment Policy, Policy 9: Environment)</i>		✓		✓
<i>Local Government will collaborate with State and Commonwealth Governments through mechanisms including the Inter-governmental Agreement on the Environment (IGAE) in managing both the natural and built environment, (Sub Policy 9.3: Inter-Government Responsibilities, Policy 9: Environment) including: Local Government together with State and Federal Governments will cooperate to identify parts of the natural and built environment and work together with the community to ensure good management of those environments, (Sub Policy 9.3.1, Policy 9: Environment); Mechanisms must be put in place to satisfy the increasing role and responsibility of Local Government to address environment issues, (Sub Policy 9.3.4); and Local Government advocates regional cooperation as a framework for sustainable development, (Sub Policy 9.3.6, Policy 9: Environment)</i>	✓	*	✓	✓
<i>Local Government has an integral role in land management and conservation as a planning authority, land manager, coordinator and facilitator of local activity, (Sub Policy 9.4.1 of Sub Policy 9.4: Natural Environment, Policy 9: Environment)</i>	*	✓		✓
<i>Local Government and community participation is crucial to the achievement of integrated catchment management and is essential to reform of water resource management, (Sub Policy 9.4.2 (part) of Sub Policy 9.4: Natural Environment, Policy 9: Environment)</i>	✓	*	✓	✓
<i>Community development requires a partnership between the three spheres of government (Commonwealth, State and Local) and community and other non-government organisations, (Introductory statement to policy 10: Community and economic Development)</i>	✓			*
<i>Cooperative activity between Local Governments which is best facilitated by voluntary regional groupings is to be encouraged, especially as a counter to the threatened loss of Local Government functions, (Sub Policy 12.2: Regional Organisation, Policy 12: Structure and Management)</i>	✓	*	✓	*

Source for Policy statements: ALGA, 1994

KEY

- ✓ Substantial intent
- ✓ Moderate intent
- * Inferred Intent

EVOLUTION OF STATUTORY & REGIONAL PLANNING (QUEENSLAND)

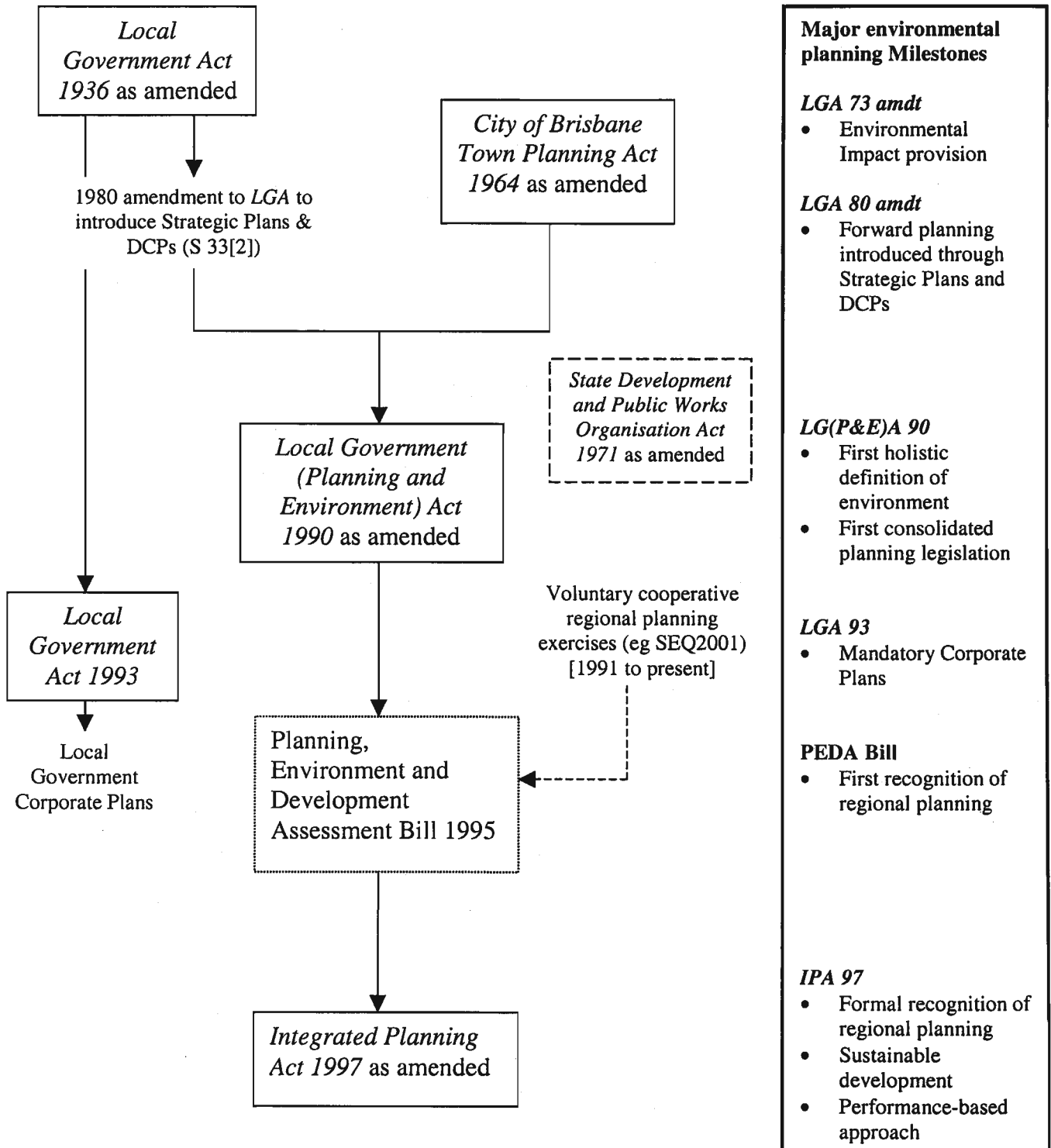
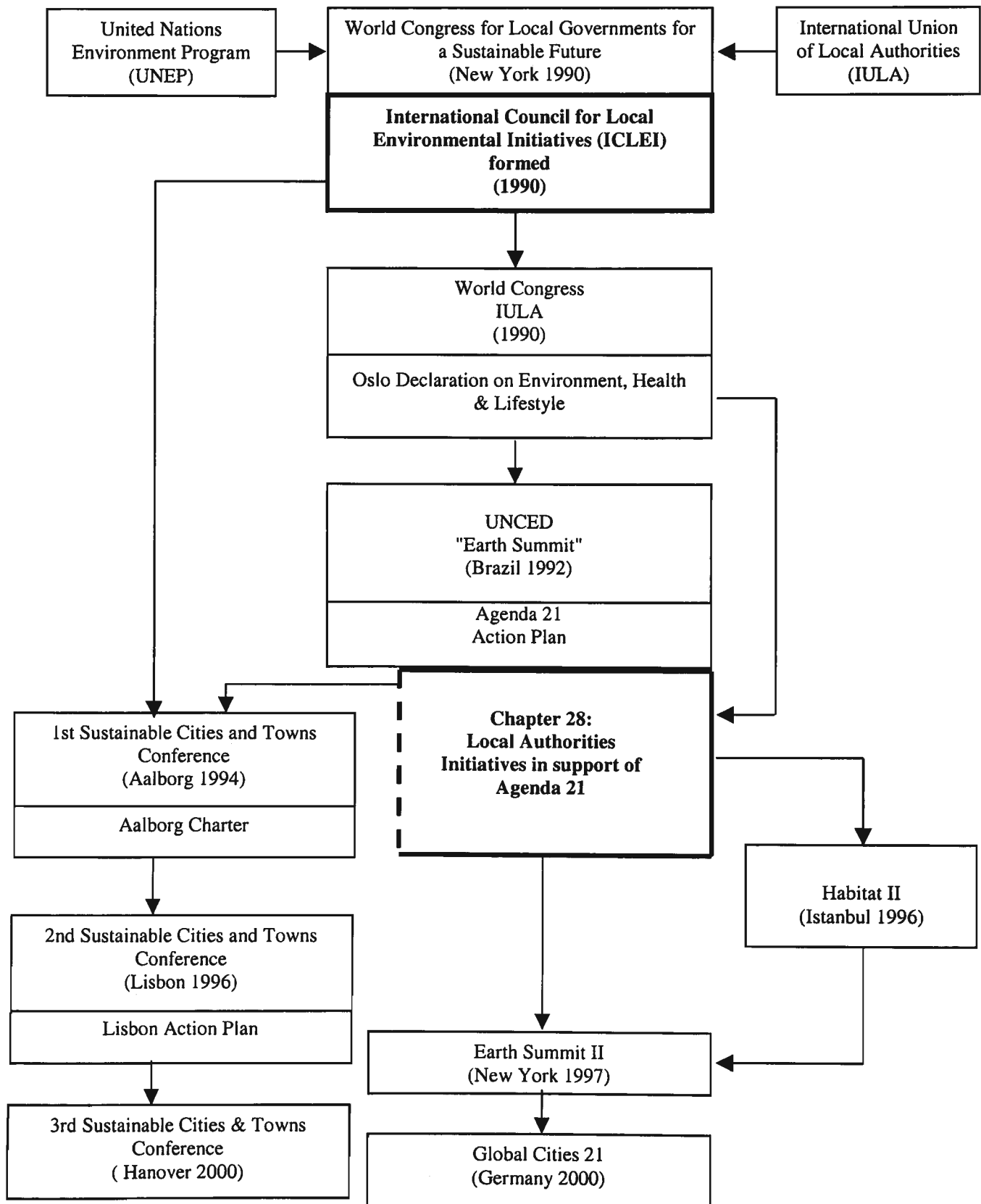


Figure 3.4: Key Milestones in the Development of LA21



LOGAN-ALBERT RIVERS CATCHMENT CHARACTERISTICS

Physical Characteristics

The combined Logan and Albert Rivers catchment of some 3,740 sq km is situated in the southern section of the South East Queensland (SEQ) Region. The rivers have their headwaters in the Scenic Rim/Border Ranges which delineates the Queensland/New South Wales border. The Logan enters the sea via southern Moreton Bay. The catchments of the Logan and Albert Rivers are illustrated in Figure 1.

Whilst the Logan River catchment, (2986 sq km), is contained within six SEQ local authority areas, it only has direct frontage along its 175 km length with the local authorities of Beaudesert Shire, Gold Coast City, Logan City and Redland Shire. Its major tributary, Teviot Brook (103 km length), has direct frontage with Boonah and Beaudesert Shires. By contrast, the Albert River catchment of some 754 sq km, and a river length of 134 km, has direct frontage with only Beaudesert Shire and Gold Coast City.

Annex A provides statistical details on the physical characteristics of the Logan and Albert Rivers and their respective catchments.

Population

The total population of the Logan and Albert Rivers catchment at the time of the 1991 census was 190,937. By 1996 it had reached 225,088. This represents an 18% increase in population across the catchment in five years. The catchment represents 10% of the population of SEQ and 7% of the population of Queensland.

Both the 1991 and 1996 census show that the catchment is characterised by high residential mobility and strong population growth rates. 47% of the catchment population has changed their residential location in the five years. The five local authorities comprising the Logan and Albert Rivers Catchment will contribute 52% of the 1995-2011 population growth (medium series) for the SEQ Region (QDLG&P 1996:18). The catchment's population in 2011 is predicted to be 278,200.

Comparatively, a greater percentage of the population resides in the Logan River catchment than the Albert River catchment. This distribution has not changed from 1991 to 1996. The majority of the catchment population comprises young, Australian born families residing in single detached dwellings. The catchment exhibits a slightly younger population than the rest of SEQ. However, rural shires, such as Boonah, have a higher percentage of elderly and less youth than urban areas of the catchment. The age structure of the catchment has shifted slightly in the 1991 to 1996 census period, with an indication that the catchment now has a higher proportion of its population in the older age groups.

Further catchment demographic details are provided in Annex B.

The Economy

The dominant industry of employment in the catchment is the Wholesale and Retail Trade Industry, employing 24% of the workforce. This is followed by the Manufacturing Industry at 16% and the Construction Industry at 10%. Since 1991 the Construction Industry has replaced the Community Services Industry as the third largest employer in the catchment. The Agriculture, Forestry, Fishing and Hunting Industry employs 2% of the catchment workforce, however, this industry is significant, occupying 46% of the land area in the catchment. Annex C provides further agricultural statistics for the catchment.

Due to the dispersed nature of the Tourism Industry, direct comparison to other industries by employment figures is not possible. Takings from Tourist Accommodation in 1993 for the five local authorities within the catchment represented 55% of such takings for the SEQ Region and 30% for Queensland (ABS, 1994). However, these figures are heavily skewed by the tourist destinations within those local authorities that do not fall within the catchment itself. The Gold Coast particularly has a strong tourism base outside of the catchment area. Annex D provides further tourism statistics for the catchment.

Areas of Regional Conservation Significance

The Open Space and Recreation Policy Paper of the SEQ2001 project summarised areas identified by local authorities as having potential regional conservation significance in the SEQ Region. There are several significant and well-established areas identified in the catchment including Lamington National Park, Daisy Hill State Forest, Mt Lindesay and Mt Barney National Parks, Carbrook Wetlands and Mt Cotton Bushland. A full list is tabulated in Annex E with more detailed assessment contained in Table 5.1 of Section 5.2.1.

Of particular significance in the catchment is the value of remnant bushland vegetation, especially vineforest remnants which have been given the most urgent conservation priority in SEQ due to their species diversity, number of rare and threatened species and likely role as refugia for both fauna and flora (Beaudesert Shire Council 1996:73). Beaudesert Shire and Gold Coast City both recognise the conservation priority that is required to protect remaining scattered pockets of vineforest in the Logan and Albert Rivers catchment. The Scenic Rim/Border Ranges World Heritage area also holds significant conservation value in relation to the catchment. These values are described in the following section.

Scenic Rim/Border Ranges World Heritage Area

The Scenic Rim/Border Ranges area refers to the system of prominent mountain ranges to the south and west of Brisbane. The Rim begins near Laidley and stretches south to include the Little Liverpool Range, Mistake Mountains and Main Range, then eastward from Wilson's Peak along the McPherson Range and the Queensland/New South Wales border. Details on the Scenic Rim/Border Ranges area are provided by the Queensland Department of Environment and Heritage in "Parks of the Scenic Rim: Draft Management Framework" (QDEH: 1994).

Most State land in the Scenic Rim has been included in the World Heritage listing as part of the '*Central Eastern Rainforests of Australia*' in 1994. The Scenic Rim contributes to the following World Heritage values:

- outstanding examples representing major stages of the earth's evolutionary history;
- outstanding examples representing significant ongoing geological processes and biological evolution; and
- the most important and significant natural habitats where threatened species of animals and plants of outstanding universal value from the point of science or conservation still survive.

The Scenic Rim/Border Ranges area is significant in relation to the management of the Logan and Albert River catchment, as the Scenic Rim is the watershed of several river systems including the Logan and the Albert Rivers. In addition to this, a large area of the Rim, in particular, Mount Roberts, Wilson's Peak to the west, and the McPherson Range to the south forms part of the catchment. In a regional context, the Scenic Rim represents a major proportion of the remnant natural land in the rapidly growing area of SEQ. The value of the Scenic Rim in terms of conservation, water supply, education value, cultural heritage and tourism, means that effective management of the Scenic Rim area is integral to effective management of the Logan-Albert Rivers catchment.

LOGAN AND ALBERT RIVERS CATCHMENT PHYSICAL CHARACTERISTICS

Table A.1: Physical Characteristics of the Catchment

	LOGAN RIVER CATCHMENT	ALBERT RIVER CATCHMENT	COMBINED LOGAN/ALBERT RIVER CATCHMENT
TOTAL AREA (sq.km)	2986	754	3740
AREA PER LOCAL AUTHORITY (sq. km)			
BEAUDESERT	1896	665	2561
BOONAH	801	Nil	801
BRISBANE	25	Nil	25
GOLD COAST	65	89	154
LOGAN	173	Nil	173
REDLAND	24	Nil	24
LENGTH OF RIVER PER LOCAL AUTHORITY (km)			
	LOGAN RIVER	ALBERT RIVER	COMBINED RIVERS
TOTAL LENGTH OF RIVER (km)	175	134	309
BEAUDESERT	137	110	247
GOLD COAST	30	24	54
LOGAN	7	Nil	7
REDLAND	1	Nil	1

(Measurements taken from a 1:100,000 scale map using Arcinfo).

TEVIOT BROOK SUB-CATCHMENT

Total Length: 103 km.

LENGTH PER LOCAL AUTHORITY

Beaudesert: 8.8 km.

Boonah: 94.2 km.

LOGAN AND ALBERT RIVERS CATCHMENT DEMOGRAPHY (based on 1996 ABS Census data)

General

- The population of the combined Logan and Albert River Catchment in 1996 was 225088.
- 90% of the Catchment population reside in Logan River Catchment.
- The 5 Local Authorities comprising the Logan and Albert Rivers Catchment are predicted to contribute 52% of population growth for SEQ for the 1995 - 2011 time period (QDLG&P 1996:18).

Age

- The Catchment had a higher proportion of people in the age groups between 0 - 19 years [35%] than in SEQ (29%) and Qld (31%).

Ethnicity

- Most people residing in the Catchment were born in Australia - 73%. This proportion was slightly lower than SEQ 76% and Qld 78%. The next highest birthplace was Europe and USSR (12%). For SEQ and Qld, this was 10% and 9% respectively.

Educational Institution Attended

- 69% of the Catchment population were not attending any educational institution.
- Primary school students represent 12% of the Catchment's population; high school students comprising approximately 8%.
- In comparison to SEQ and Qld, the Catchment had a slightly higher proportion of the population attending primary schools and a slightly lower proportion of the population attending universities.

Dwelling Type and Household Type

- The most common dwelling type in the catchment are separate houses, accounting for 86% of the dwellings.
- The most common household type were Households with One Family (71%).
- A larger proportion of Two Parent Families reside in Separate Houses in the Catchment (41%) compared to SEQ (30%) and Qld (31%).
- The Catchment had a lower proportion of Lone Person Households (15%) than SEQ (21%) and Qld (21%). This was with the exception of Boonah Shire which had 23% of its population living in Lone Person Households.

Household Income

- The census indicates that there are even distributions of household earnings in the middle income brackets.
- There are no outstanding differences between household incomes in the Logan/Albert Rivers Catchment, SEQ and Qld.

Occupation

- Across the Logan/Albert Rivers Catchment, the most well represented occupations were Clerical and Service Workers(31%) Tradespersons (16%), Production and Transport Workers(12%), Labourers and Related Workers (11%).
- The proportion of Professionals for the Catchment (10%) was less than SEQ (16%) and Qld (15%).
- For the Catchment, SEQ and Qld, the most common occupation for females was Clerical or Service Workers and for males was Tradespersons.

Industry of Employment

- Most common industry of employment is Wholesale and Retail Trade (24% of the Catchment). This industry also dominated employment in SEQ (21%) and Qld (20%). Boonah Shire was very different with only 1% of its workers employed in that industry.

- The second and third dominant industries are Manufacturing (16%) and Construction Industry (10%).
- The Agriculture, Forestry, Fishing and Hunting Industry represented 2% of the Catchment (2% for the Logan River Catchment, 6% for the Albert River Catchment, 2% of SEQ and 6% of Qld).

Qualification

- 66% of the Catchment population held no formal qualification in 1991. The 1996 Census did not have this category.
- The Catchment recorded a slightly lower percentage of people with a Higher Degree Diploma, Bachelor Degree or Undergraduate diploma than SEQ or Qld but a higher proportion of persons with Skilled Vocational Training.

Means of Travel to Work

- Most frequent mode of travel to work was by car as driver, representing 64% across the Catchment, which was greater than in SEQ or Queensland. Next most common mode was by car as passenger (8%).
- Travel to work by bus, ferry/tram, motorbike/scooter, bicycles or walking, each represented 2% or less across the combined Catchment.
- Methods of travel to work did not differ significantly between the Logan/Albert Catchment, SEQ and Qld.

LOGAN AND ALBERT RIVERS CATCHMENT AGRICULTURAL PRODUCTION

The agricultural sector of the Logan/Albert Rivers Catchment plays an important role in the economy of the Catchment and the SEQ region. In terms of area of land, the Agricultural Industry utilises 46% of the land in the Catchment, with this area also representing 21% of the SEQ region and 0.1% of Queensland.

The Agricultural industry in the Catchment accounts for a significant proportion of the agricultural activity in the SEQ region. In particular, the number of Lambs in the Catchment represent 43% of lambs in the SEQ region and Sheep, Sown Pasture, Meat Cattle, Milk Cattle and Crops for Hay each account for more than 20% of their respective industry in the SEQ region.

In comparison to the Agricultural Industry in Queensland, the Logan/Albert Rivers Catchment provides 8% of Milk Cattle and 3% of Vegetables, while other agricultural activities represent between 0% and 1.5% of their industry. Agricultural Statistics for the Logan and Albert Rivers Catchment are summarised in Table C.2.

The Catchment also includes a number of State Forests and Timber Reserves. These are listed in Table C.1.

Table C.1: State Forests within Catchment

NAME	FOREST REFERENCE	TYPE	TOTAL AREA (ha)	AREA IN LOGAN CATCHMENT (ha)	AREA IN ALBERT CATCHMENT (ha)	RESPONSIBLE LOCAL GOVERNMENT
-	SF200	SF	1270	927	0	Beaudesert
-	SF359	SF	345	345	0	Beaudesert
-	SF745	SF	816	816	0	Beaudesert
Wickham	TR766	TR	564	201	145	Beaudesert
Alford	SF786	SF	126	126	0	Boonah
Burnett Creek	SF735	SF	2820	2780	0	Boonah
Daisy Hill	SF215	SF	435	432	0	Logan
Gambubal	SF661	SF	-	2	0	-
Teviot	SF283	SF	647	637	0	Boonah
Tamborine	SF326	SF	596	0	596	Gold Coast & Beaudesert

Source: Qld DPI. 1996.

SF: State Forest

TR: Timber Reserve

Note: Statistics are only available from the Australian Bureau of Statistics for discrete Local Government Authorities. As, the Local Authority boundaries do not correlate to the Catchment boundary, agricultural statistics are provided for each LGA and the approximate percent of each LGA included in the Catchment is given. The proportion of each Local Government Authority within the Catchment has been used to calculate approximate agricultural statistics for the Logan/Albert Catchment. This method of calculation assumes that agricultural activity is evenly distributed within each LGA.

Portion of Local Government Areas included in the Catchment.

Gold Coast City: 11% Brisbane City: 3%
 Beaudesert Shire: 90% Logan City: 71%
 Boonah Shire: 54% Redland Shire: 5%

Table C.2 Area and Land Utilisation (1992-93)

Area and Land Utilisation / agricultural activity	Gold Coast City	Beaudesert Shire	Boonah Shire	Brisbane City	Logan City	Redland Shire	Logan & Albert Rivers C'ment	SEQ	% of SEQ	Qld	% of Qld
Total Area ('000 ha)	149	286	148	122	24	54	374.7	2259	16.7	172700	0.2
Agricultural Establishments (No.)	233	438	272	154	38	139	605	3781	16.0	25131	2.4
Agricultural Establishments ('000 ha)	21	141	81	3	-	3	173	840	20.6	149520	0.1
Sown Pasture ('000 ha)	2.4	11.8	4.1	0.5	-	0.3	13	60.2	21.8	5594.4	0.2
Field Crops ('000 ha)	6.0	3.0	3.1	0.3	0.1	0.1	5.1	37.1	13.8	2245.6	0.2
Fruit and Nuts (incl. grapes) ('000ha)	0.2	0.3	-	0.1	-	0.1	0.3	9.9	3	36.3	0.8
Vegetables ('000ha)	-	0.1	1.8	0.4	-	0.4	1.1	13.9	7.9	33.9	3.2
Meat Cattle (No.)	4633	79514	38115	1423	24	871	92757.6	326923	28.4	9593203	1.0
Milk Cattle (No.)	6692	21777	6307	1140	188	-	23908.9	95826	25.0	279811	8.5
Sheep excl. lambs (No.)	71	106	366	55	-	-	302.5	1364	22.2	11622093	0.0
Lambs (No.)	-	176	88	15	-	-	206.4	480	43.0	1784559	0.0
Pigs (No.)	-	6190	6216	845	-	1154	9010.7	46631	19.3	617487	1.5
Cereals for grain (ha)	13	780	960	-	-	-	1221.8	6634	18.4	1236736	0.1
Legumes for grain (ha)	-	315	1003	-	-	-	825.1	5411	15.2	82282	1.0
Crops for hay and green fodder (ha)	321	1269	1073	127	26	-	1779	7662	23.2	394540	0.5
Other field crops (ha)	5662	683	18	149	87	143	1319	16428	8.0	532085	0.2
Sugar cane for crushing (ha)	4435	-	-	-	-	-	487.8	10422	4.7	312123	0.2
Sugar cane for crushing (tonnes)	358303	-	-	-	-	-	39413.3	774388	5.1	26291798	0.1
Bananas (tonnes)	1013	-	-	17	-	36	113.7	6386	1.8	147787	0.1
Tomatoes (tonnes)	22	41	66	291	37	225	121.1	10785	1.1	114926	0.1

Source: Australian Bureau of Statistics (March 1994) Agriculture Statistics - Selected Small Area Data

LOGAN AND ALBERT RIVERS CATCHMENT TOURISM

Tourism is a major industry within the Catchment and SEQ. The Australian Bureau of Statistics report for 1993, the value of Tourist Accommodation for the 5 Local Authorities comprising the Logan/Albert Rivers Catchment was in excess of \$300 Million. This represents 55% of Tourist Accommodation Takings in the SEQ2001 Region and 30% of such takings for Queensland. However, these figures are heavily skewed by the tourist destinations within those shire that do not fall within the catchment itself. The Gold Coast particularly has a strong tourism base outside of the catchment area.

The importance of tourism in the Catchment is further highlighted when compared to the Manufacturing and Retail Industries, which reveals that the Logan/Albert Rivers Catchment contributes proportionally more to the Tourism Industry of SEQ and Qld than it does to the Manufacturing and Retail Industries. A comparison of these dominant industries is provided in Table D.1.

Table D.1: Comparison of the Tourism, Retail and Manufacturing Industries

	Value in Catchment \$'000	Value in SEQ \$'000	% of SEQ	Value in Qld \$'000	% of Qld
Tourist Accommodation 1993	307401	555579	55	1028183	30
Retail 91-92	3211176	11265871	28	16518388	19
Manufacturing 91-92	2031944	15796335	13	22783422	9

Source: ABS Regional Statistics - Queensland 1994.

The Joint Tourism Committee has been established by the Local Authorities of Albert, Ballina, Beaudesert, Gold Coast, Redland and Tweed. The committee has produced statistics about tourism relevant to those areas. The data available for these Local Authorities within the Catchment is included in the Table D.2

Table D.2: Tourism Statistics for the Logan/Albert Rivers Catchment

	Gold Coast	Beaudesert Shire	Redland Shire
Attractions - Man Made	30	-	-
Attractions - Natural	6	-	-
Length of Coastline	N/A	N/A	50kms
Number of Surf Clubs	N/A	N/A	1
Signposted Round Tours	6	3	1
Number of Golf Clubs	19	5	6
Area of National Parks	22,789ha	30ha	1,555ha
Number of National Parks	10	11	4
Hotels, Motels, Apartments - Number of Units	-	9	-
Caravan Parks - Number of Parks	16	3	3
International Hotels	1	1	nil
Total Value Of Tourism Annually	\$1.320m	\$2m	-
Total Number of Visitors - Domestic and Overseas	2,514,000	250,000	100,000
Total Number of Visitor Nights -Domestic and Overseas	13,762,000	672,000	-
Licensed Clubs	32	10	12
Climate:			
Temperature	Av.25°	Av.7°-30°	Av.9.5°-20.9°
Daylight Hours	Av.12	Av.12	Av.12

(Source: Joint Tourism Committee, Statistics Covering the Combined region of the Joint Tourism Committee)

LOGAN AND ALBERT RIVERS CATCHMENT ENVIRONMENTAL CONSERVATION

There are numerous national and environmental parks and reserves within the Catchment. Those of regional and higher level significance were identified by the Regional Planning Advisory Group of the SEQ 2001 project as follows:

Table E.1: Areas of Potential Regional Conservation Significance in the Catchment

NOMINATED AREA OF REGIONAL CONSERVATION SIGNIFICANCE	REASON FOR SIGNIFICANCE	RELEVANT LOCAL AUTHORITY
Scenic Rim National Parks (including Mt Lindesay NP, Chinghee NP, etc)	Integral to existing space network of SEQ Includes flora and fauna of biographical significance	Beaudesert and Boonah Shire Council
Cornubia (Por 238)	Part of core koala habitat Important flora/fauna habitat	Logan City Council
Daisy Hill State Forest	Valuable flora/fauna habitat (especially for koalas) Part of proposed coordinated conservation area	Logan City Council
Carbrook Wetlands and associated Eucalypt forests	Significant extensive alluvial Melaleuca Wetlands Part of core koala habitat	Logan City Council
Mount Cotton Bushland	Core koala habitat One of few remnant eucalypt bushland areas High habitat value for wildlife Water supply catchment Close to large population	Redland Shire Council
Spring Mountain/Flinders Peak	Contains remnant lowlands bush Significant in respect to regional habitat corridors	Beaudesert Shire Council
Tamborine Mountain (not including eastern escarpment)	Contains nine small national parks Significant because of location with respect to regional habitat corridors Other significant land in private ownership	Beaudesert Shire Council
Mt Barney National Park	Largely undeveloped mountain Varied flora and fauna	Beaudesert Shire Council
Lamington National Park	Part of large subtropical rainforest reserve Extensions of the Lamington Plateau significant with respect to regional habitat corridors	Beaudesert Shire Council
Maroon Dam	Provides urban water for other local authorities	Boonah Shire Council
Scenic Rim McPherson Border Ranges	Scenic Beauty Historical interest Recreational opportunities	Boonah Shire Council

Source: SEQ2001 - Open Space and Recreation 1993, Albert Shire Planning Studies 1995 & Beaudesert Strategic Plan 1996 Planning Study.

ANNEX E to APPENDIX 7.1 (continued)

Approximately 9% of the Logan/Albert River Catchment area is reserved as Conservation Parks and National Parks. The following listings were obtained from the SEQ 2001 Open Space and Recreation Policy Paper (1993), the Department of Environment and Heritage, Conservation Strategy Branch and the Queensland Department of Primary Industry.

Table E.2: Conservation and National Parks in the Catchment

NAME	TOTAL AREA (ha)	AREA IN LOGAN CATCHMENT (ha)	AREA IN ALBERT CATCHMENT (ha)	TRUSTEE
Buccan Conservation Park	118	97	21	Beaudesert Shire Council
Plunkett Conservation Park	467	410	57	Beaudesert Shire Council
Knapp Creek Conservation Park	123	119	0	Beaudesert Shire Council
Native Dog Creek Conservation Park	88	88	0	Logan City Council
Serpentine Creek Conservation Park	122	122	0	Redland Shire Council
Springwood Conservation Park	29	29	0	Logan City Council
Woongoolba Conservation Park	17	17	0	Gold Coast City Council
Lamington National Park	20500	6392	9911	QNPWS
Sarabah National Park	1	0	1	QNPWS
Main Range National Park	18400	1242	0	QNPWS
Moogerah Peaks National Park	927	235	0	QNPWS
Mount Barney National Park	13000	12934	0	QNPWS
Mount Chinghee National Park	1260	1256	0	QNPWS
Venman Bushland National Park	420	0	420	QNPWS

Declared Catchment (Water Resources Act)

Maroon Dam Catchment

Reserve for Departmental and Official Purposes (Environmental Protection)

Reserve Number 1828 (Rocky Point), 369 ha

Major Commonwealth Reserves/Lands

Military Bases and Training Areas

Greenbank 4670 ha
 Canungra 5700 ha

**KEY ISSUES OF CONCERN TO CATCHMENT MANAGEMENT
AGENCIES (LOGAN RIVER) - 1991**

KEY ISSUES

Band 1	<ul style="list-style-type: none"> Sand and Gravel (resources) Extraction Wetlands Conservation Visual Quality/Aesthetics Water Quality Rehabilitation of Degraded land/ banks Tourist Development Recreational Use of River/Riverfront Land Maintenance of Aquatic Ecosystems Waste Disposal Sewage Disposal
Band 2	<ul style="list-style-type: none"> Urban Development Public Accessibility to River Urban Runoff Erosion Control Waterfront Development Waterfront Industry Rural Land Uses Ecological Conservation Eutrophication Flooding
Band 3	<ul style="list-style-type: none"> Retention of Rural Character Public Open Space Use of Town Water Supplies Use for Irrigated Supplies Use for Stockwater Supplies Piggeries, Feedlots, Dairies Commercial Fishing Mosquito/Midge Control Noxious Species of Fish Refuse Tips
Band 4	<ul style="list-style-type: none"> Agricultural Runoff River Use Capability Water Traffic Road Traffic Recreation Fishing Debris Clean-Up

**KEY ISSUES OF CONCERN TO CATCHMENT MANAGEMENT
AGENCIES (LOGAN & ALBERT RIVERS) - 1997/98**

KEY ISSUES

- BAND 1 {
 - Water Quality
 - Wetlands Conservation
 - Maintenance of Aquatic Ecosystems
 - Sand and Gravel (resources) Extraction
 - Sewage Disposal
 - Erosion Control
 - Urban Runoff
 - Ecological Conservation
 - Rehabilitation of Degraded land/ banks
 - Waste Disposal
 - Urban Development

- BAND 2 {
 - Rural Land Uses
 - River Use Capability
 - Waterfront Development
 - Eutrophication
 - Visual Quality/Aesthetics
 - Waterfront Industry
 - Recreational Use of River/Riverfront Land
 - Public Accessibility to River
 - Flooding
 - Agricultural Runoff

- BAND 3 {
 - Refuse Tips
 - Commercial Fishing
 - Debris Clean-Up
 - Retention of Rural Character
 - Use for Irrigated Supplies
 - Use for Town Water Supplies
 - Mosquito/Midge Control
 - Recreational Fishing
 - Use for Stockwater Supplies
 - Tourist Development

- BAND 4 {
 - Water Traffic
 - Piggeries, Feedlots, Dairies
 - Public Open Space
 - Noxious Species of Fish
 - Road Traffic

Additional Issues (not in ranked order):

- Protection of Areas of Historical Significance
- Cross boundary and Local Government Authority Co-operation
- Aquaculture
- Woody weeds infestation
- Exotic plants/trees

LOGAN AND ALBERT RIVERS CATCHMENT PRINCIPLES OF WHOLE CATCHMENT MANAGEMENT

Whole catchment management (WCM¹) is a 'unifying theme for action' - a philosophy, a *process* and *product*, concerned with integration and management of biophysical and socio-cultural resources within a catchment for the achievement of sustainable use of the catchment's resources. As a *philosophy*, WCM 'needs to foster an organisational culture and associated attitudes that view cooperation and collaboration as essential'. As a *process*, WCM requires a 'well understood planning and implementation process through which it is delivered' to be effective. The *product* of WCM will vary according to conditions and needs, but should incorporate 'environmental, economic and social considerations and should clearly relate to specific resource management outcomes' (Syme et al, 1994: 1). Whole catchment management underlies the Logan & Albert Rivers Catchment Management Project (LARCMP).

Whole catchment management principles can be grouped and discussed under the following headings:

- Environmental
- Temporal
- Education and Awareness
- Institutional Arrangements
- Public Participation
- Technical
- Economic

ENVIRONMENTAL:

- management of land and water resources should be based on geographical units that account for the interactions between these resources. A clearly defined water course catchment is the most suitable geographical management unit
- all natural systems (land, air, water and biological), within a catchment, are dynamic and interdependent and a change in one can affect the other
- catchment management should be a holistic activity and should involve consideration of all aspects of the biophysical and socio economic environments that impinge on the catchment and its use. Plans and programs must be developed on a whole catchment - whole river basis
- catchment management should seek equitable, efficient and sustainable use of the land, water and biological resources within a catchment to achieve a sustainable balance between conservation and development
- each catchment has its own distinctive set of characteristics that need to be recognised in determining the most suitable management system. Local factors must be taken into account when developing catchment management policies and programs
- Ecologically Sustainable Development (ESD) and biodiversity are important underlying principles for catchment management
- approaches to land and water management should be based on preventative maintenance, not disaster responses with the aim of ensuring minimal degradation and erosion of soils, minimal impact on water yield and quality and on other features of the environment

TEMPORAL:

- *Intergenerational equity* is an important underlying principle, ie. the recognition of the philosophy of 'land stewardship' to ensure that a catchment's resources are used in a sustainable manner and within their capabilities, to meet the needs of people now and in the future

¹ Many terms have evolved in this area of environmental management including Total Catchment Management (TCM) and Integrated Catchment Management (ICM). These terms are not readily interchangeable with WCM. On occasions, these additional terms have been coined by various state, regional and local authorities to describe catchment related policy initiatives and programs which do not necessarily match with WCM principles.

- river catchments, especially their watercourses, are continuously changing in response to natural processes

EDUCATION and AWARENESS:

- facilitate local ownership of catchment management issues through formal and informal programs to raise the level of awareness and understanding in all sectors and groups within the catchment community
- in a democratic society, sound land and water management is best achieved through the informed action of the individual users and managers of these resources
- development of mechanisms that *effectively* involve catchment communities (stakeholders) in understanding the problems within a catchment and in developing goals, objectives, priorities and action plans.

INSTITUTIONAL ARRANGEMENTS:

- recognition that the multiplicity of jurisdictions and responsibilities within a catchment is the reality and that the principle of cooperative management has a key role to play
- effective whole catchment management will require coordination between Federal, State and Local agencies as well as community groups. Therefore, development of mechanisms to achieve coordination and cooperation between all interested government, non-government and private bodies to ensure effective implementation of policies, programs and projects, is required
- development of a framework for multi-objective catchment planning and management programs, incorporating input from a wide range of professions and disciplines within both the private and public sectors
- realistic financial commitments are required from all levels of government to ensure viability and continuity of management

PUBLIC PARTICIPATION:

- encourage maximum public participation in the policy development, plan making and plan implementation stages of WCM projects
- acceptance of a diversity of legitimate stakeholder values in terms of land and water use - catchment management policies and programs must relate to community concerns and values
- acknowledge the rights of individual landholders to use their land within the confines of the legal system and management program
- community ownership of local environmental problems should be encouraged for management, monitoring and awareness
- communities are neither static nor passive recipients of policy initiatives
- community involvement processes need to be open, accountable, transparent, dynamic and revisable
- broad based representation on catchment committees should be encouraged to reflect the diversity of interests in the catchment community
- decision making processes should effectively integrate short and long term economic, environmental, social and equity considerations

TECHNICAL:

- facilitate flexible arrangements to incorporate technical innovations into catchment management programs
- deal cautiously with risk and irreversibility
- acknowledge the *precautionary principle* where there are threats of serious or irreversible environmental damage. Lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.

ECONOMIC:

- the balance between economic development and conservation of land and water resources must be maintained
- the need to develop a strong, growing and diversified catchment economy which can enhance the capacity for environmental protection should be recognised

Guidelines for the Establishment of the Logan (Albert) River Community Consultative Committees

LRCCC - 1993

1. Each local authority area should be represented by at least two members on the LRCCC regardless of the organisation that they represent;
2. Committee membership should include youth representation;
3. Committee membership should include no more than one member from each organisation (proxies can be nominated);
4. Elected representatives are ineligible to serve on the committee as voting members (ie it is an advisory committee to councils). However, they should be encouraged to attend meetings of the LRMCCC in a non-voting ex officio capacity;
5. Bureaucrats who by virtue of their current position, would be expected to have a direct interest/involvement in catchment management issues in the Logan River catchment are ineligible to serve on the LRCCC;
6. Committee representation for the LRCCC should endeavour to include the following:
 - outdoor recreation groups (including river-based interests)
 - Landcare groups (rural and urban)
 - river-side residents
 - progress associations
 - industry (commercial fishing, tourism, and sand and gravel)
 - primary producers
 - school/education
 - conservation groups
7. Election of a chairman and other office bearers should be the responsibility of the committee once it is established;
8. Frequency of meetings, timings, venues etc should be at the discretion of the committee;
9. One member of the LRCCC should be nominated to represent that committee at meetings of the LRMCCC; and
10. Administrative/clerical support should be provided by one of the local authorities of the LRMCCC.

(Adopted by LRMCCC 3rd September 1993)

LARCCC - 1997

1. size of the LARCCC should be manageable while still being representative of all necessary interests. Numbers should not exceed 35, although deputies or proxies may be nominated to maintain a broader network of participants;
2. each local authority area should be represented by at least 3 members on the LARCCC;

3. both catchments should be represented in the membership. Logan River catchment has approximately 80% of the land area and 90% of the total population of the combined catchments. No more than 15-20% of the membership should be based in the Albert River catchment;
4. committee membership should aim to be representative of the demographic profile of the catchment including youth, gender and ethnicity;
5. Professional qualifications should not be a priority in membership, but the LARMCC should aim to recruit people with skills and experience in a range of areas appropriate to catchment management, especially community-based activities;
6. agricultural land use makes up approximately half of the land use in the total catchment, plays a significant role in the economy of the catchment, but only 2% of employment is in this sector. Membership should reflect this;
7. elected representatives are ineligible to serve on the committee as voting members (ie it is an advisory committee to councils, etc). However, they should be encouraged to attend meetings of the LARCCC in a non-voting ex officio capacity;
8. bureaucrats, who by virtue of their current position, would be expected to have a direct interest/involvement in catchment management issues in the Logan and Albert Rivers catchments are ineligible to serve on the LARCCC;
9. LARCCC should endeavour to be representative of the following interests in committee membership:
 - Aboriginal interests
 - outdoor recreation groups (including river-based interests)
 - land care groups (rural and urban)
 - river-side residents
 - progress associations
 - industry (commercial fishing, tourism, manufacturing and sand and gravel)
 - primary producers
 - school/education
 - conservation groups (preferably with regional focus)
10. election of a Chairperson and other office bearers should be the responsibility of the Committee once it is established;
11. frequency of meetings, timing, venues, etc should be at the discretion of the Committee;
12. one member of the LARCCC should be nominated to represent that committee at meetings of the LARMCC; and
13. administrative/clerical support should be provided by one of the local authorities of the LARMCC.

(Adopted by LARMCC 28th November 1997)

Recommendations Stemming from Survey Of 1993-95 Logan River Community Consultative Committee

The following recommendations were aimed at improving the effectiveness of recruiting and forming the new Logan and Albert Rivers Community Consultative Committee (LARCCC) in 1999.

ESTABLISHMENT

Recommendation 1: Respondents thought that recruitment methods (invitations, direct contact, newspaper ads and other media, public meetings, etc) used to form the LRCCC were sufficient to reach a wide range of groups. However, membership needs to be reviewed by an independent body, or by the broader community if possible, to determine whether representation is fair.

Recommendation 2: Those deciding how to form the new LARCCC will need to consider carefully the size of the committee and what is more important – forming a small, workable group of 8-15 people, or a larger group with broader representation. Decisions about group membership should take into account the aims of the LARCCC.

Recommendation 3: LARCCC members should be aware of the time commitment necessary before joining the committee. Interested but over-committed people may not be the best choice.

COMMITTEE OPERATIONS

Recommendation 4: Effort needs to be made to overcome factors that restrict people's ability to be involved in the LARCCC. For example, members should be able to set their own meeting times to suit as many people as possible. Also, consideration needs to be given to the difficulty that many members experienced getting to meeting locations, and arrangements made to suit (even if this involves having sub-catchment meetings or similar).

Recommendation 5: It is imperative that the LARCCC members are encouraged to establish their own objectives and discuss their interests and agendas early so they have some focus in meetings. Otherwise they may end up losing interest, as did LRCCC members. They should also aim to achieve common understanding of the issues. A meeting facilitator may be of help with these tasks in early stages of the committee's operation.

Recommendation 6: Options for resourcing the committee need to be explored, including offering travel expenses, especially for remote participants to attend meetings. Assistance needs to be provided by the LARMCC or a catchment co-ordinator to help the LARCCC through bureaucratic "hurdles".

Recommendation 7: LARCCC meetings need to be interesting and well-managed for members to want to stay involved. They should attempt to include guest speakers, have a clear meeting structure, make use of workshops and training to help address particular issues, take field trips around the catchment, and include social time to allow relaxed discussion and to build trust.

Recommendation 8: Members should be encouraged to co-ordinate LARCCC meetings with the meeting times of their constituencies to facilitate feedback and involvement. In addition, should LARCCC members request training on participatory techniques, assistance needs to be made available.

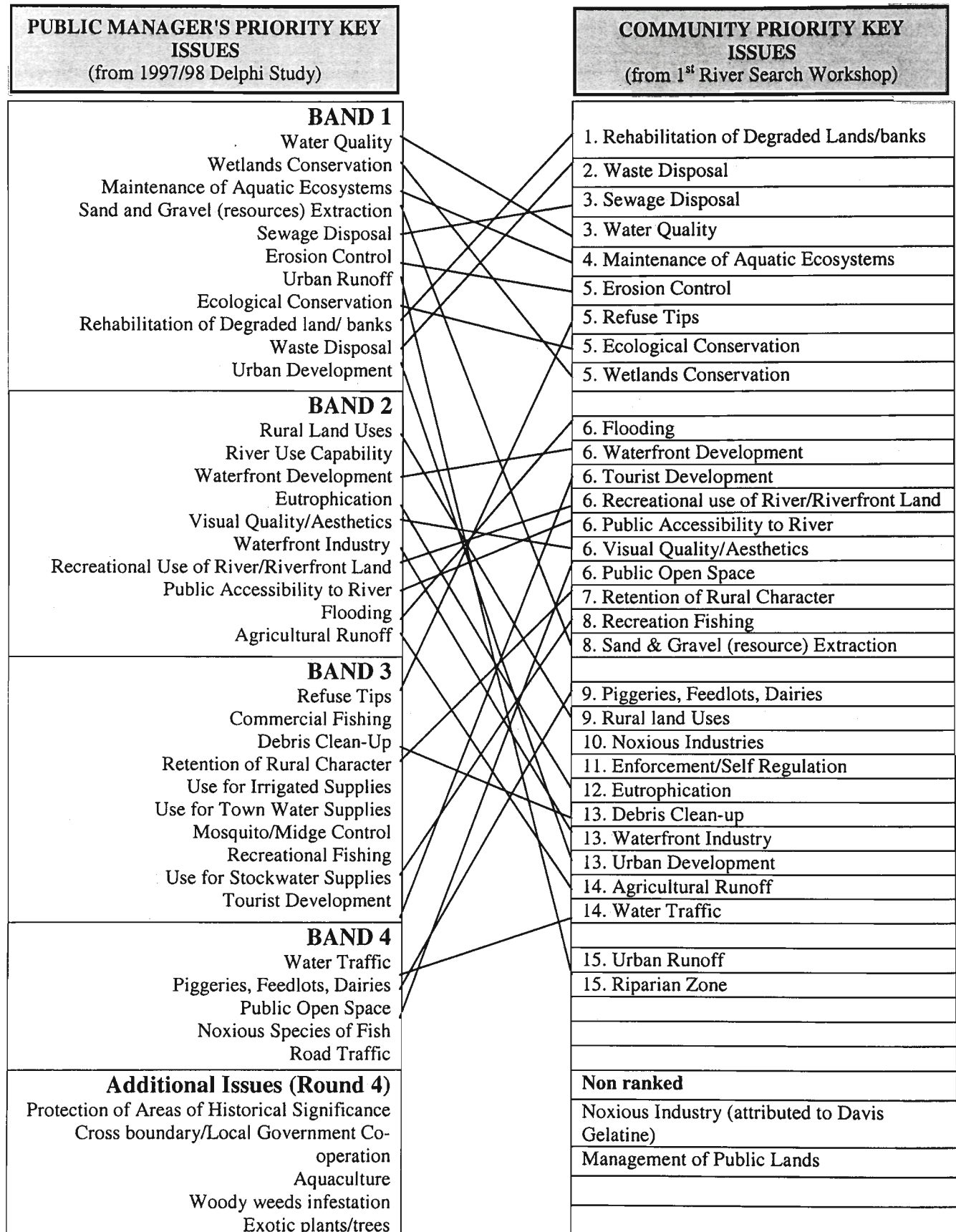
Recommendation 9: Channels for communication between the LARCCC and other committees should be created such as:

allow a member of the LARCCC to sit on the LARMCC and vice versa;

provide an opportunity for an elected representative (local and/or state) to sit on the LARCCC in a role decided by the committee (eg provide information and advice; to hear feedback from LARCCC members).

In addition, the LARMCC should make clear to the LARCCC how they can access information, resources and support from local and state government agencies.

COMPARISON OF PUBLIC MANAGER'S & COMMUNITY KEY ISSUES



Comparative Review of Key Issues with LRMCC Local Authority Strategic Plans - 1992/93

A = STRATEGIC PLAN PART A ² B = STRATEGIC PLAN PART B C = CATCHMENT WIDE POLICY	Albert Shire Council			Beaudesert Shire Council			Boonah Shire Council			Redland Shire Council			Logan City Council		
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
BAND ONE															
Water Quality	*	*			*			*		*	*				■
Wetlands Conservation	*	*								*				*	
Maintenance of Aquatic Ecosystems	*	*								*					
Sand and Gravel Extraction (resources)	*	*			*		*	*		*	*				■
Sewage Disposal	*	*		*			*	*		*	*			*	
Erosion Control															
Urban Runoff															
Ecological Conservation	*	*		*			*			*	*		■	*	
Rehabilitation of Degraded Land/Banks															
Waste Disposal	*	*		*											
Urban Development	*	*		*	*		*			*			*		
BAND TWO															
Rural land uses	*	*		*	*		*	*		*	*		*	■	
River Use Capability															
Waterfront Development							*			*	*				
Eutrophication															
Visual Quality /Aesthetics	*	*		*	*		*			*	*		■	*	
Waterfront Industry	*	*													
Recreational Use of River/Riverfront Land															
Public Accessibility to River															
Flooding	*	■			*			*					*	■	
Agricultural Runoff															
BAND THREE															
Refuse Tips		*		*						*	*		*		
Commercial Fishing		*													
Debris Cleanup															
Retention of Rural Character	*	*					*			*			*		
Use for Irrigated Supplies					■		*	■							
Use for Town Water Supplies					■			*							
Mosquito/Midge Control															
Recreational Fishing		*													
Use for Stockwater Supplies					■										
Tourist Development	*	*		*	■		*	*		*	*				
BAND FOUR															
Water Traffic														*	
Piggeries, Feedlots, Dairies								*							
Public Open Space	■	*		*	*		*	*		*	*		*	*	
Noxious Species of Fish															
Road Traffic	*	*		*	*		*	*					*	*	

- Explicit objective, implementation or reference to this issue in relation to the Logan River
- * Implied objective, implementation or reference to this issue.

² Albert Shire Strategic Plan 1988; Beaudesert Shire Strategic Plan 1984; Boonah Shire Strategic Plan (undated); Redland Shire Strategic Plan 1988; Logan City Strategic Plan 1988

Comparative Review of Key Issues with LRMCC Local Authority Strategic Plans - 1994

A = STRATEGIC PLAN PART A ³ B = STRATEGIC PLAN PART B C = CATCHMENT WIDE POLICY	Albert Shire Council			Beaudesert Shire Council			Boonah Shire Council			Redland Shire Council			Logan City Council		
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
BAND ONE															
Water Quality	*	*		*	*			*		*	*		■		
Wetlands Conservation	*	*								*			*	■	
Maintenance of Aquatic Ecosystems	*	*		*	■					*			*	■	
Sand and Gravel Extraction (resources)	■	*		*	■		*	*		*	*		*	■	
Sewage Disposal	*	*		*	*		*	*		*	*		■	*	
Erosion Control	*												*		
Urban Runoff	*												*	*	
Ecological Conservation	*	*		*	*		*			*	*		■	■	
Rehabilitation of Degraded Land/Banks		*											■	■	
Waste Disposal	*	*		*	*								■		
Urban Development	*	*		*	■		*			*			*	*	
BAND TWO															
Rural land uses	*	*		*	*		*	*		*	*		*	*	
River Use Capability															
Waterfront Development		*					*			*	*		*		
Eutrophication															
Visual Quality /Aesthetics	*	*		*	*		*			*	*		*	■	
Waterfront Industry	■	■											*	■	
Recreational Use of River/Riverfront Land	*												■	■	
Public Accessibility to River	*												■		
Flooding	*	■			*			*					*	■	
Agricultural Runoff		*		*									*		
BAND THREE															
Refuse Tips		*		*						*	*		*		
Commercial Fishing		*												■	
Debris Cleanup															
Retention of Rural Character	*	*		*			*			*			*		
Use for Irrigated Supplies							*	■							
Use for Town Water Supplies	*	■			■			*						*	
Mosquito/Midge Control														■	
Recreational Fishing		■												■	
Use for Stockwater Supplies															
Tourist Development	*	*		*	*		*	*		*	*				
BAND FOUR															
Water Traffic													*	■	
Piggeries, Feedlots, Dairies								*							
Public Open Space	■	*		*	*		*	*		*	*		■	*	
Noxious Species of Fish															
Road Traffic	*	*		*	■		*	*		*	*		*	*	

- Explicit objective, implementation or reference to this issue in relation to the Logan River
- * Implied objective, implementation or reference to this issue.

³ Albert Shire Draft Strategic Plan 1994; Beaudesert Shire Draft Strategic Plan 1994; Boonah Shire Draft Strategic Plan 1994; Redland Shire Strategic Plan; Logan City Strategic Plan 1994

Comparative Review of Key Issues with LARMCC Local Authority Strategic Plans - 1999

A = STRATEGIC PLAN PART A ⁴ B = STRATEGIC PLAN PART B C = CATCHMENT WIDE POLICY	Gold Coast City Council			Beaudesert Shire Council			Boonah Shire Council			Redland Shire Council			Logan City Council		
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
BAND ONE															
Water Quality	■	■		■	■		■	■		■	■		■	■	
Wetlands Conservation	■	■		*	*					■	■		■	■	
Maintenance of Aquatic Ecosystems	■	*		■	*		*	*		*	*		*	*	
Sand and Gravel Extraction (resources)	*	*		*	■		■	*		■	■		■	■	
Sewage Disposal	*	*			■					*	■		*	*	
Erosion Control	■	*					*	*		■	*		■	■	
Urban Runoff	■	■			*					*	*		*	*	
Ecological Conservation	■	■		*	*		*	*		■	■		■	■	
Rehabilitation of Degraded Land/Banks	*	*								*	*		*	*	
Waste Disposal	■	*			*		*	*		*	*		*	*	
Urban Development	*	*		*	*		*	*		■	*		*	■	
BAND TWO															
Rural land uses	*	*		*	*		*	*		*	*		*	*	
River Use Capability	*			*	*								*	*	
Waterfront Development	■	*		*	*					*			*	*	
Eutrophication															
Visual Quality /Aesthetics	■	*		*	*		*	*		*	*		*	■	
Waterfront Industry	■	*		*	*					■	*		*	*	
Recreational Use of River/Riverfront Land	■	*					*			*	■		*	*	
Public Accessibility to River	■	*		*	*					*	■		*	*	
Flooding	■			■	*		*	*		■			*	*	
Agricultural Runoff	*	*		*	*		*	*		*			■	*	
BAND THREE															
Refuse Tips	■	*			*		*	*		*			*		
Commercial Fishing															
Debris Cleanup															
Retention of Rural Character	*			*	*		*	*						*	
Use for Irrigated Supplies				*	*		*	■		*					
Use for Town Water Supplies	■				■			*		*	■				
Mosquito/Midge Control													*	■	
Recreational Fishing		*													
Use for Stockwater Supplies															
Tourist Development	■	■			*		*	*		*			■	*	
BAND FOUR															
Water Traffic															
Piggeries, Feedlots, Dairies				■											
Public Open Space	■	■		*	*		*	*		*	■		*	■	
Noxious Species of Fish															
Road Traffic	*	*		■	■		■	■		■	■		*	■	

- Explicit objective, implementation or reference to this issue in relation to the Logan and/or Albert Rivers
 * Implied objective, implementation or reference to this issue.

⁴ City of Gold Coast (September 1997) Draft Strategic; Beaudesert Shire Strategic Plan 1996; Boonah Shire Strategic Plan (undated); Redland Shire Strategic Plan 1997 (Revised Draft 12.02.97); Logan City Strategic Plan 1997

INFORMATION SOURCES PRODUCED FOR THE LOGAN- ALBERT COOPERATIVE PLANNING PROJECT

REPORTS

Low Choy, D.C., 1993: *A Proposal to Establish the Logan River Community Consultative Committee*, Environmental Planning Group, Griffith University, prepared for LRMCC.

Low Choy, D.C., 1993: *Report on First Community River Search Workshop: Logan River Co-operative Management*, (11th June 1993), Environmental Planning Group, Griffith University, prepared for LRMCC.

Low Choy, D.C. & Heilbronn, K., 1994: *A Discussion Paper for the Logan River Catchment Management Strategy*, prepared for LRMCC.

Environmental Planning Group, 1997a: *Logan and Albert Rivers: A Chronological History*, Griffith University.

Environmental Planning Group, 1997b: *Logan and Albert Rivers: Historical Bibliography*, Griffith University.

Environmental Planning Group, 1997c: *Bibliography for the Logan and Albert Rivers*. Griffith University.

Low Choy, D.C., 1997d: *A Proposal to Establish the Logan and Albert Rivers Community Consultative Committee*, Environmental Planning Group, Griffith University, prepared for LARMCC.

Low Choy, D.C., 1997e: *Logan River Catchment Management Study: Key Issues of Concern to Catchment Management Agencies - Summary of 1991 Delphi Study (Third Round Survey)*, Environmental Planning Group, Griffith University, prepared for LRMCC.

Low Choy, D.C. and Davies, R.C. 1997: *A Strategy for Community Participation in Ongoing Planning and Management for the Logan and Albert Rivers Catchment*, Environmental Planning Group, Griffith University, prepared for LARMCC.

Low Choy, D.C. and Piorkowski, M., 1997: *Responsibilities and Jurisdictions Review for the Ongoing Planning and Management for the Logan and Albert Rivers Catchment - A Discussion Paper*, Environmental Planning Group, Griffith University, prepared for LARMCC.

Low Choy, D.C. & Tomerini, D.M., 1997a: *Logan & Albert Rivers Catchment Demographic Report: Main Report*, (Feb 1997), Environmental Planning Group, Griffith University, prepared for LARMCC.

Low Choy, D.C. & Tomerini, D.M., 1997b: *Logan & Albert Rivers Catchment Demographic Report: Summary Report*, (Feb 1997), Environmental Planning Group, Griffith University, prepared for LARMCC.

Environmental Planning Group, 1998: *Information Kit: Logan and Albert Rivers Catchment Management Project*, prepared for LARMCC.

Low Choy, D.C. & Heitmann, S., 1998: *Logan and Albert Rivers Catchment: Community Database of Environmental Resources*, Environmental Planning Group, Griffith University, prepared for LARMCC.

Low Choy, D.C., 1998: *Logan and Albert Rivers Catchment Management Study: Key Issues of Concern to Catchment Management Agencies - Results of Confirmatory Delphi Survey (Fourth Round Survey)*, Environmental Planning Group, Griffith University, prepared for LARMCC.

Low Choy, D.C. & Davies, R.C. 1998: *Survey Report: Logan River Community Consultative Committee*, Environmental Planning Group, Griffith University, prepared for LARMCC.

Tomerini, D.M. & Low Choy, D.C, 1998a: *Logan & Albert Rivers Catchment Demographic Report: Main Report*, (Nov 98), Environmental Planning Group, Griffith University, prepared for LARMCC.

Tomerini, D.M. & Low Choy, D.C, 1998b: *Logan & Albert Rivers Catchment Demographic Report: Summary Report*, (Nov 98), Environmental Planning Group, Griffith University, prepared for LARMCC.

Kirby, S. & Low Choy, D.C., 1998: *State and Regional Initiatives relevant to Logan and Albert Rivers Catchment Management*, Environmental Planning Group, Griffith University, prepared for LARMCC.

Low Choy, D.C. & Kirby, S., 1999: *Characteristics of Land Adjacent to the Logan/Albert Catchment Waterways*, Environmental Planning Group, Griffith University, prepared for LARMCC.

Kirby, S. & Low Choy, D.C., 1999: *Best Environmental Management Practices in Catchment Management*, , Environmental Planning Group, Griffith University, prepared for LARMCC.

Low Choy, D.C., 1999: *Towards Joint Co-Ordinated Management for the Logan and Albert Rivers - A Background Paper*, Environmental Planning Group, Griffith University, (regular update).

McKillop, J. & Low Choy, D.C., 1999: *Report on the Logan & Albert Rivers Catchment Workshop*, (17th July 1999), Environmental Planning Group, Griffith University, prepared for LARMCC.

Low Choy, D.C. & McKillop, J., 1999a: *Managing Change in the Catchment*, Discussion Paper 1, Environmental Planning Group, Griffith University, prepared for LARMCC.

Low Choy, D.C. & McKillop, J., 1999b: *Managing the Riparian Zone*, Discussion Paper 2, Environmental Planning Group, Griffith University, prepared for LARMCC.

Low Choy, D.C. & McKillop, J., 1999c: *The Living River*, Discussion Paper 3, Environmental Planning Group, Griffith University, prepared for LARMCC.

Low Choy, D.C. & McKillop, J., 1999d: *Good Land Use Management*, Discussion Paper 4, Environmental Planning Group, Griffith University, prepared for LARMCC.

FACT SHEETS

Environmental Planning Group, 1997a: *Physical Characteristics*, prepared for LARMCC.

Environmental Planning Group, 1997b: *Catchment Demography*, prepared for LARMCC.

Environmental Planning Group, 1997c: *Agricultural Production*, prepared for LARMCC.

Environmental Planning Group, 1997d: *Tourism*, prepared for LARMCC.

Environmental Planning Group, 1997e: *Environmental Conservation*, prepared for LARMCC.

WEB SITES

Logan and Albert Rivers Catchment: A Community Database of Environmental Resources, (Site Address: <http://www.ens.gu.edu.au/larcmp>), Environmental Planning Group, Griffith University, prepared for LARMCC.

TABLES OF CONTENTS for LOGAN-ALBERT DISCUSSION PAPERS

Discussion Paper 1: *Managing Change in the Catchment* - June, 1999

CONTENTS

SYNOPSIS

Glossary

1.0 INTRODUCTION

- 1.1 Catchment Features and Processes
- 1.2 River Characteristics and Processes
- 1.3 Changes in River Behaviour
- 1.4 Changes in the Catchment

2.0 THE IMPORTANCE OF CATCHMENT MANAGEMENT

- 2.1 Principles of Whole Catchment Management

3.0 THE LOGAN ALBERT CATCHMENT

- 3.1 People and Places of the Catchment
- 3.2 Historical and Cultural Features
- 3.3 Catchment Management to Date
- 3.4 Issues of Concern in the Catchment

4.0 THE MANAGEMENT OF CHANGE IN THE CATCHMENT

- 4.1 Identifying Changes in Catchment Conditions
- 4.2 Assessing and Monitoring Change
- 4.3 Responsibilities for Ongoing Planning and Management

5.0 THE FUTURE DIRECTION

REFERENCES

Discussion Paper 2: *Management of the Riparian Zone* - June, 1999

CONTENTS

SYNOPSIS

Glossary

1.0 INTRODUCTION

- 1.1 Defining the Riparian Zone

2.0 FUNCTIONS OF THE RIPARIAN ZONE

- 2.1 Ecological Function and Significance
- 2.2 Cultural and Social Significance
- 2.3 Economic Significance

3.0 THE IMPORTANCE OF MANAGING THE RIPARIAN ZONE

- 3.1 Processes that Influence the Riparian Zone
- 3.3 Ten Good Reasons to Manage the Riparian Zone

4.0 OPTIONS FOR MANAGEMENT OF THE RIPARIAN ZONE

- 4.1 Managing Riparian Vegetation
- 4.2 Managing Stock
- 4.3 Managing Water Quality
- 4.4 Managing Land and Water Ecosystems

5.0 FUTURE DIRECTIONS

Discussion Paper 3: *The Living River* - June, 1999

CONTENTS

SYNOPSIS

Glossary

1.0 INTRODUCTION

2.0 RIVER HISTORY AND CULTURE

2.1 Aboriginal Links and Associations

2.2 European Links and Associations

2.3 Contemporary Demographic Profile

3.0 NATURAL HERITAGE AND CULTURAL HERITAGE

3.1 Natural Heritage

3.3 Cultural heritage

4.0 TOURISM, RECREATION AND ACCESS

4.1 Recreation and Tourism Opportunity

4.2 Access

5.0 MANAGEMENT OPTIONS AND ISSUES

5.1 Managing the Catchments Natural Heritage

5.1.1 Management of Waterways

5.2 Managing Cultural Heritage

5.3 Managing Access

5.4 Creating Open Space

FUTURE DIRECTIONS

REFERENCES

Discussion Paper 4: *Good Land Use Management* - June, 1999

CONTENTS

SYNOPSIS

Glossary

1.0 INTRODUCTION

1.1 Land Uses in the Catchment

Agriculture and Forestry

Extractive Industries

Urban Development and Industry

2.0 POTENTIAL PROBLEMS RELATING TO LAND USE PRACTICES

2.1 Non-point Source Pollution

Agriculture and Forestry

Urban Development and Industry

2.2 Point Source Pollution

Aquaculture and Commercial Fishing

Extractive Industries

3.0 CUMULATIVE LAND USE CHANGES

4.0 GOOD LAND USE MANAGEMENT OPTIONS

4.1 Management Strategies for Soil, Water and Vegetation

4.2 Whole Catchment Management and its Barriers

5.0 FUTURE DIRECTIONS

REFERENCES

**Appropriateness of the L-A CPM for Addressing Key SoE Issues
(based on the Logan-Albert experience)**

Key Issue*	Sub Issue (Key Threats To Sustainability)*	Appropriateness of the Cooperative Planning Model (L-A CPM)	Form of acknowledgement in Logan-Albert Experience
A systems perspective		★	a, c, d, e
Human Settlements	Livability of remote indigenous communities -lack of services		
	Livability of inland towns - population decline	☆	
	Livability of coastal settlements	☆	
	Coastal development	★	
	Metabolism of big cities	☆	
	Livability of big cities	☆	a, b
Biodiversity	Effects of human population & consumption	★	d
	Condition of ecosystems	★	a, b, c, d, e
	Distribution and abundance of species	☆	
	Change in genetic diversity		
	Land clearance and related activities	★	d
	Impacts of introduced species		a, d
	Harvesting of native species		
	Lack of knowledge of biodiversity		d
	Effective conservation measures external to reserves	★	c, d, e
	Adequacy of protected areas	★	a, b, c, d, e
Atmosphere	Integrated ecosystem-based management of natural resources	★	d, e
	Air quality data		
	Indoor Air Quality		
	Stratospheric ozone loss		
	Urban air quality		
	Enhanced greenhouse effect		
	Regional emissions	☆	
Land Resources	Land clearance	★	d
	Agriculture (degradation)	★	a, b, c, d
	Rangelands	★	a, b, c, d
	Cropping lands (degradation)	★	a, b, c, d
	Forests	★	d
	Data	☆	d
Inland Waters	Dryland salinity		
	Wetlands		
	Over-allocation of water to consumption		
	Irrigation		
	Endangered species		
	Nutrients		
	Water weeds		
	Sediments		
	Monitoring		
	Data		

Key Issue*	Sub Issue (Key Threats To Sustainability)*	Appropriateness of the Cooperative Planning Model (L-A CPM)	Form of acknowledgement in Logan-Albert Experience
Estuaries and the Sea	State of seagrass		
	Fisheries	★	a, b,
	Integrated ecosystem-based management – marine ecosystems		
	Effects of nutrients	★	a, b, c, d, e
	Effects of coastal development	★	
	State of mangroves	★	a, b, c, d, e
	Effects of introduced pests		
	Coral reefs		
	Lack of representative marine protected areas		
Natural /Cultural Heritage	Lack of knowledge	☆	d
	Knowledge about heritage places and objects	☆	a, c, d
	Physical condition of heritage places and objects	☆	
	State of traditional indigenous languages		
	Survival of heritage in areas of significant population change	★	
	Laws to protect heritage places and objects		
	Community involvement	★	c
	Impact of tourism	★	a, b, c, d, e

* Key and Sub Issue Source: SoEAC, 1996a (see also Appendix 1.1)

KEY

1. First Level Assessment: Applicability to the Logan-Albert situation

Not applicable to the Logan-Albert situation

Partly applicable to the Logan-Albert situation

Applicable to the Logan-Albert situation

2. Second Level Assessment: Appropriateness of the L-A CPM for addressing Key SoE Issues

☆ Marginally appropriate - (ie an indirect level of effectiveness)

★ Appropriate - (ie a direct level of effectiveness)

Note: assessment of appropriateness has been made on the basis of the SoEAC's detail description of the nature of the particular Key Threat to Sustainability (see SoEAC, 1996a).

3. Third Level Assessment: Acknowledgement in Logan-Albert experience

Example of where issue was addressed in Logan-Albert initiative:

- a) Delphi Study outcome (see Appendix 8.5) – *a*: High priority (Band 1 Delphi)
- b) Community Workshop theme (see Appendix 8.5) – *b*: High priority (Rank 1 to 5)
- c) Included in objective of cooperative planning exercise
- d) Discussion paper reference (see Section 8.5.3 and Figure 8.16)
- e) Emergent Policy (see Section 8.5.4 and Figure 8.17)