

Department of Community

# Realities in Rural Development: fisheries development in Fiji

**Joeli Veitayaki**

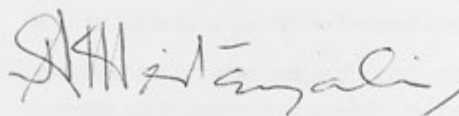
June 2000

A thesis submitted for the degree of Doctor of Philosophy at the Australian National University, Canberra.

## Declaration of Originality

Except where otherwise acknowledged in the text, this thesis represents the author's original research. I hereby declare that this doctoral thesis does not contain material that I have previously submitted for a higher degree of any University. The thesis contains work undertaken by myself under the supervision of Drs Elspeth Young, Padma Lal and Meg Keen of the Graduate Studies in Environmental Management and Development of the National Centre for Development Studies, at the Australian National University.

The names of some of my respondents have been withheld in the text and in the list of references honouring my promise to protect their interests and confidentiality.



Joeli Veitayaki

June 2000

## Acknowledgements

The completion of this work is largely the result of the generous support and assistance provided to me by the many wonderful people that I have had the pleasure, honour and good fortune to associate and work with. I first of all, thank the Lord Almighty for this calling. My passage from my village in Malawai in Gau to Canberra would not have been possible without his blessing and guidance.

I am grateful to my employer, the University of the South Pacific, for providing my scholarship and the opportunity to study. To all my friends and colleagues there, my sincere thanks and appreciation for the support and continuous encouragement. I would like to specially thank Seremaia Tuqiri, Professor Paddy Nunn, Vina Bidesi, Sue Naco, Professor Rajesh Chandra, Professor Randy Thaman, Professor Vijay Naidu, Professor William Clarke and Dr Kesaia Seniloli. This work is a tribute to our collective desire to make a difference in the South Pacific. To the University Research Committee, thank you for financing the fieldwork.

I also acknowledge the generous and welcomed contribution from the Ministry of Fijian Affairs, which supported me for the last four months of my stay in Canberra.

My deep appreciation goes to my supervisors Drs Elspeth Young, Padma Lal and Meg Keen and my advisors, Professor Robin South and Dr Patricia Kailola, for providing the inspiration, motivation, encouragement and enthusiasm required for this study. Thank you all for your support that went far beyond the call of duty and for proof reading countless drafts. My deep gratitude to Judy Bell and Mr Oi for the painstaking editing work and to Aubrey Parke for reading some of my earlier papers. I also specially thank Mr Oi for his assistance with the financial analysis.

I am grateful to the other staff at the Environmental Management and Development Programme for providing the homely atmosphere and learning tradition that guided me in my work. I am very grateful to Di, David, Habiba, and Sue. You have all made Canberra warm for me.

Special thanks to the staff at the National Centre for Development Studies for making my tenure enjoyable. To Jenny and her staff, Tony, Donovan,

Marie and Debra, many thanks. Your support and never failing service made the work much more congenial and manageable.

I acknowledge the assistance and support of Maciu Lagibalavu and the staff at the Fiji Fisheries Division. Thank you for allowing me the use of your facilities and materials. I look forward to working with you all in future. I pay a special tribute to my late friend and colleague, Benedito Tikomainuisiladi, who was my research assistant during parts of the fieldwork.

My deep gratitude to all the people involved in my study. To all the fishers I worked with in Ba, Lautoka, Labasa, Suva and Nausori and the villagers in Kiuva, Malake, Qoma, Kaba, Nakobo, Namuka, Vadravadra, Somosomo and Vione, *vinaka vakalevu*. I was touched by your resolve to bear with me when I was disrupting your work and life with my interviews. My apologies if my questions were embarrassing. I am indebted for the opportunity to share your life. I hope your experiences are accurately interpreted here and that these contribute to making future rural development initiatives more meaningful and enjoyable to our people.

As always, I was moved by the support in Malawai. *Vinaka vakalevu* to Nei, Tukai Tiliva, Tukai Lai, Tukai Maca, Tamai Bola, Tukai Wati, Tukai Rai, Tukai Anisi, Tamai Ulaya, Tamai Delai, Tamai Ilisoni, Tamai Sireli, Epeli, Inoke, Raijijeli, Alumita and the rest of the villagers. Your support and prayers gave me the strength to persevere.

To my Canberra families, words cannot express my gratitude at the opportunity to meet you and the blessings I witnessed in your company. To Greg, Adi Biu, Amelia and Elizabeth, your kindness and assistance inspired me and will remain the yardstick with which I judge myself. To Brij, Padma, Yogi and Niraj *bahut dhanyabad* for the immeasurable assistance, and camaraderie extended to my family and me. To you all, thank you for being there. I will never be able to reciprocate but I am comforted by the thought that I am a better person for having met you. Of course, I hope that you will visit my family and me whenever you come to our corner of the Pacific.

I am also grateful to Nemani and Adi Eci Nabalarua, Glen Ah Sam and Frank Whippy and their families for helping me to settle into Canberra. To the Rurus, Kaitanis, Yabakis, Korovuseres, Ligaivius, Mainaqelelevus and the rest of the Canberra community, *vinaka vakalevu* for everything.



At home, I am eternally grateful for the support of family members. To Lote, Masi, Lili, Mathew, Lo, Panapa, OP and Ella and the Sikivous, I am indebted and humbled by your support and assistance. To the Wongs, Nailolos, Nodrayacas, Rokotoros, Vulas, Baleitamavuas, Tagivetauas, Koroi and the folks, thank you for the never-ending kindness and prayers. To Nei, Mara, Vui and Iliana, thank you for looking after our home. Your support has made my absence more bearable for Mere and the children.

I remember with great affection Mesa's support and backing and want to acknowledge his untimely passing, which has left us all so much poorer.

To my children, Akosita, Vesi and Soeri, thank you for understanding the reason for my long absence. I hope you will one day also understand why it was necessary. Last but not least, my deep gratitude and appreciation for the compassion and tolerance given unreservedly by my wife Mere who, despite her job, typed and proof read innumerable pages, managed our home, frequently travelled to visit me and offered encouragement and moral support. I persisted because of you all.

To all the above-mentioned people, I extend my sincere thanks but I alone accept responsibility for this work and its shortcomings.

## Abstract

The failure of rural development projects is common in the Pacific Islands. These failures embarrass government and the development agencies and cause frustration and despair for rural communities. These failures also reduce the opportunities and negate the multiplier effects that the development initiatives were supposed to stimulate. Despite this, there has been little attempt to improve the performance of rural development projects. Consequently, the same inappropriate rural development approaches are used repeatedly and achieve the same poor results.

This study investigates and attempts to understand the factors that affect the outcomes of development projects in Fiji. It is based on the belief that inherent socioeconomic problems need to be understood if they are to be appropriately addressed. Recent experiences reveal the misconceptions, contradictions and misunderstandings between the indigenous people involved in the development projects and those instigating these. As a result, there are problems with the design and implementation approaches of these rural development activities. The situation is even more complex because of the socioeconomic circumstances associated with the racial mixture of the population.

The case studies are evaluated to identify the problems that affect these development projects and suggest solutions. The evaluation uses a common set of criteria to identify the main features of these problems. Although the development activities are specific to the fisheries sector, the nature of the problems is indicative of all rural development initiatives.

On the basis of the identified problems, it is obvious that a new approach to rural development planning and implementation is required. The new approach should emphasise the participation of local people, the sustainable use of natural resources and the promotion of both self-determination and self-reliance. The new approach suggests the use of the project cycle, a new funding arrangement and a new authority to spearhead the implementation of new and more appropriate rural development initiatives.

# Table of Contents

<b>Declaration of Originality</b>	<b>ii</b>
<b>Acknowledgements</b>	<b>iii</b>
<b>Abstract</b>	<b>vi</b>
<b>Table of Contents</b>	<b>vii</b>
<b>Acronyms</b>	<b>xi</b>
<b>List of Tables</b>	<b>xv</b>
<b>List of Figures</b>	<b>xvi</b>
<b>1. Introduction</b>	<b>1</b>
1.1 Background	1
1.2 Rural Development	2
1.2.1 Rural development issues in the Pacific Islands	4
1.2.2 Challenges in fisheries development in the Pacific Islands	6
1.3 Study objectives	8
1.4 The scope	9
1.4.1 Case studies	9
1.5 The structure of the thesis	10
<b>2. Rural Development Theories and their Application in the Pacific Islands</b>	<b>12</b>
2.1 Introduction	12
2.2 Rural development theories and approaches	13
2.2.1 Modernisation theory	13
2.2.2 Underdevelopment and dependency theory	17
2.2.3 Alternative approaches to rural development	18
2.3 Rural development in the Pacific Islands	31
2.3.1 Emphasis on economic development	33
2.3.2 Dominant role of government	34
2.3.3 Emphasis on the Pacific Way	35
2.3.4 Challenges of the Pacific Paradox and aid dependency	37
2.3.5 Importance of people's participation	41
2.4 Conclusion	42

<b>3. Cultural and Institutional Context of Rural Development in Fiji</b>	<b>45</b>
3.1 Introduction	45
3.2 The setting	46
3.2.1 Geography	46
3.2.2 History	50
3.2.3 Economy	57
3.2.4 Infrastructure	60
3.2.5 Social indicators of development	61
3.3 Rural development in Fiji	61
3.3.1 Rural development administrative structure	63
3.3.2 Rural development issues	65
3.4 Conclusion	73
<b>4. Evaluating Rural Development</b>	<b>75</b>
4.1 Introduction	75
4.2 Conceptual framework	75
4.3 Methodology	80
4.4 Evaluation and assessment	81
4.5 Research design	84
4.5.1 Data collection	87
4.5.2 Data analysis	91
4.5.3 Limitations of methodology	92
4.5.4 The study sites	94
4.6 Conclusion	96
<b>5. Fisheries Development in the Pacific Islands and Fiji</b>	<b>97</b>
5.1 Introduction	97
5.2 Fisheries development in the Pacific Islands	98
5.3 Fisheries development in Fiji	105
5.3.1 Fisheries development programmes	110
5.3.2 Problems of fisheries development projects in Fiji	119
5.4 Conclusion	127
<b>6. Case Study 1: The Boat Building Project</b>	<b>128</b>
6.1 Introduction	128
6.2 The boat building project: the background	129
6.3 Participants assessment	132

<b>6.4</b>	<b>Factors affecting the outcomes of the project</b>	<b>138</b>
6.4.1	Appropriateness	138
6.4.2	Cost effectiveness	148
6.4.3	Effectiveness	155
6.4.4	Efficiency	161
<b>6.5</b>	<b>Conclusion</b>	<b>164</b>
<b>7.</b>	<b>Case Study 2: The Seaweed Farming Project</b>	<b>166</b>
<b>7.1</b>	<b>Introduction</b>	<b>166</b>
<b>7.2</b>	<b>The seaweed farming project: background</b>	<b>167</b>
7.2.1	Seaweed farming and processing technology	170
<b>7.3</b>	<b>Participants assessments</b>	<b>173</b>
<b>7.4</b>	<b>Factors affecting the outcomes of the project</b>	<b>178</b>
7.4.1	Appropriateness	178
7.4.2	Cost effectiveness	188
7.4.3	Effectiveness	193
7.4.4	Efficiency	198
<b>7.5</b>	<b>Conclusion</b>	<b>199</b>
<b>8.</b>	<b>Lessons to be Learned</b>	<b>201</b>
<b>8.1</b>	<b>Introduction</b>	<b>201</b>
<b>8.2</b>	<b>Problems of development projects</b>	<b>203</b>
8.2.1	Rural development approaches	204
8.2.2	Appropriateness	208
8.2.3	Cost effectiveness	212
8.2.4	Effectiveness	216
8.2.5	Efficiency	222
<b>8.3</b>	<b>Addressing the problems of development projects</b>	<b>228</b>
<b>8.4</b>	<b>Conclusion</b>	<b>232</b>
<b>9.</b>	<b>The Way Ahead</b>	<b>234</b>
<b>9.1</b>	<b>Introduction</b>	<b>234</b>
<b>9.2</b>	<b>Solutions to the problems of rural development</b>	<b>235</b>
<b>9.3</b>	<b>Adopting the project cycle approach</b>	<b>239</b>
9.3.1	Project identification	240
9.3.2	Project formulation	240
9.3.3	Project implementation	242
9.3.4	Project monitoring and evaluation	242
<b>9.4</b>	<b>Implementing rural development projects</b>	<b>243</b>
<b>9.5</b>	<b>Conclusion</b>	<b>247</b>

<b>Bibliography</b>	249
<b>Appendices</b>	278
<b>Appendix 1: Interview Schedule</b>	279
<b>Boat Building Interview Schedule</b>	282
<b>Seaweed Farming Interview Schedule</b>	286
<b>General Interview Schedule</b>	289
<b>Appendix 2: Financial Analysis of Some of the Boat Ventures</b>	290
<b>Appendix 3: Participants in the Rural Fisheries Training Programme 1981-87</b>	296

## Acronyms

ACIAR	Australian Centre for Industrial and Agricultural Research
ADB	Asian Development Bank
AIDAB	Australian International Development Assistance Bureau
ALTA	Agricultural Landlord and Tenant's Act
ANU	Australian National University
AusAID	Australian Agency for International Development
CARICOM	Caribbean Community
CASO	Conservation Area Support Officers
CC: TRAIN	Climate Change (CC) Training
CDF	Commodity Development Framework
CF RAMP	CARICOM Fisheries Resources Assessment and Management Programme
CIDA	Canadian International Development Assistance
CMT	Customary Marine Tenure
CRES	Centre for Resource and Environmental Studies
CSIRO	Commonwealth Scientific and Industrial Research Organisation
C-SPODP	Canada-South Pacific Ocean Development Programme
DP	Development Plan
EEZ	Exclusive Economic Zone
EIMCOL	Equity Investment Management Company Limited
ESCAP	Economic and Social Commission for Asia and the Pacific
EU	European Union
FAD	Fish Aggregation Device
FAO	Food and Agriculture Organisation
FARD	Fijian Affairs and Rural Development

FDB	Fiji Development Bank
FDOA	Fiji Dive Operators Association
FFA	Forum Fisheries Agency
FMC	Food and Machinery Corporation
FNPF	Fiji National Provident Fund
FSM	Federated States of Micronesia
FTIB	Fiji Trade and Investment Board
GDP	Gross Domestic Product
GEF	Global Environment Facility
HDI	Human Development Index
HMSO	Her Majesty Service Office
ICLARM	International Centre for Living Aquatic Resource Management
IDA	Inside Demarcated Area
IOI	International Ocean Institute
IRD	Integrated Rural Development
IRDP	Integrated Regional Development Planning
IUCN	International Union for the Conservation of Nature
JICA	Japan International Cooperation Agency
MA	Master of Arts
MAF	Ministry of Agriculture and Fisheries
MAFF	Ministry of Agriculture, Fisheries and Forests
MAFFA	Ministry of Agriculture, Fisheries and Forests and ALTA
MPI	Ministry of Primary Industry
NATCO	National Trading Corporation
NCDS	National Centre for Development Studies
NGO	Nongovernment Organisation



NMA	National Marketing Authority
NZ	New Zealand
NZODA	New Zealand Official Development Assistance
ODA	Official Development Assistance
ODA	Overseas Development Administration
ODA	Outside Demarcated Area
OECD	Organisation for Economic Co-operation and Development
OFCF	Overseas Fishery Cooperation Foundation
ORSTOM	Institut Français de Recherche Scientifique pour le Développement en Coopération
PAFCO	Pacific Fishing Company
PDMC	Pacific Developing Member Countries
Ph.D	Doctor of Philosophy
PICCAP	Pacific Islands Climate Change Assistance Programme
PIMRIS	Pacific Islands Marine Resources Information System
RDA	Rural Development Authority
RFTP	Rural Fisheries Training Programme
SIDS	Small Island Developing States
SME	Small/Medium Enterprises
SPADP	South Pacific Aquaculture Development Project
SPBCP	South Pacific Biodiversity Conservation Programme
SPC	South Pacific Commission (Secretariat of the Pacific Community)
SPREP	South Pacific Regional Environment Programme
SRC	Semi-Refined <i>Carrageenan</i>
UNDP	United Nations Development Programme
UNESCO	United Nations Education Social and Cultural Organisation

UNFPA	United Nations Population Fund
UNSW	University of New South Wales
US(A)	United States (of America)
USAID	United States Agency for International Development
VHF	Very High Frequency
WCED	World Commission on Environment and Development
WCS	World Conservation Strategy
WWF	World Wide Fund for Nature

## List of Figures

Figure 3.1	The Pacific Islands	47
Figure 3.2	Fiji : Spatial Units	48
Figure 3.3	The Rural Development Administrative Structure	64
Figure 4.1	The Conceptual Framework for the Study	78
Figure 4.2	The Study Sites	95
Figure 7.1	An Off-Bottom Farm Layout	171
Figure 7.2	Drawing of a Drying Rack with Dimensions	171
Figure 7.3	Incorrect Farm Layout. Farm set Against the Water Current	177
Figure 7.4	The Correct Farm Layout. Water Flows into the Farm	177

## List of Tables

Table 2.1	Features and Emphasis of Rural Development Theories	14
Table 2.2	The Size of Government in some Pacific Islands in 1996	35
Table 2.3	Selected Economic Indicators in some Pacific Islands, 1996	38
Table 3.1	Attributes of Indigenous Fijian Villages in Four Time Periods	51
Table 3.2	Land Area and Population of Provinces and Divisions, 1986	63
Table 4.1	Research Objectives, Data Required and Source of Information	85
Table 4.2	Criteria and Element Questions for Evaluating Fisheries Development Projects	88
Table 5.1	Major Fisheries Development Issues in the Pacific Islands	104
Table 5.2	Fisheries Assistance to Fiji Between 1978 and 1988	107
Table 5.3	Canadian Government-Aided Fisheries Projects, 1989-1993	109
Table 6.1	Recipients of Subsidised Boats 1978-1981	130
Table 6.2	Types of Subsidised Ventures, 1978-1981	131
Table 6.3	Status and Ownership of the Vessels Studied in 1997	134
Table 6.4	Status, Types of Ventures and Ownership in 1997	134
Table 6.5	Operational Ventures in 1997	135
Table 6.6	Operational Boat Owners in 1997	136
Table 6.7	Nonoperational Ventures by Location, 1997	137
Table 6.8	Vessel Distribution during Walton's (1991) Review	138
Table 6.9	Problems with the Nonoperational Venture in 1997	138
Table 6.10	Production and Income for People Involved in the Study, 1997	141
Table 6.11	Commercial Fishing Record for Venture B53	147
Table 6.12	Loan Statements for some Boat Owners studied in 1997 (FS)	151
Table 7.1	Fiji's Seaweed Exports between 1985 and 1992	168
Table 7.2	Seaweed Farming with 4-Day and Week-Long Work Schedules	172
Table 7.3	Seaweed Farming Project Sample	174
Table 7.4	Estimated Weekly Income for Seaweed Farmers in the Sample (FS)	192
Table 8.1	Factors that need to be better addressed in Future Fisheries Development Projects	208
Table 8.2	Typical Annual Operational Costs for 11 Boats in their First Year	291
Table 8.3	Comparison of Typical Costs for 24 and 36 Annual Trips for 11 Vessels in their First Year	292
Table 8.4	Comparison of Loan Repayments at Various Interest Rates	293
Table 8.5	Economics of Venture with Varying Number of Trips and Prices	294
Table 8.6	Typical Vessel's Economic Profile over 10 Year Operating Life	295

# 1. Introduction

## 1.1 Background

Over the last 60 years, rural development has been pursued in developing countries because of the desire in these nations to provide their disadvantaged people in rural areas with opportunities for better living conditions (Lea and Chaudhri 1983:12; Mehta 1984:139; Lasaqa 1984:140; Singh 1986:18). Rural development initiatives have therefore been important in the Pacific Islands, where the newly independent nations have made concerted attempts to attain living standards similar to those in industrialised western countries. The Pacific Island countries see in these levels of development the solutions to their problems. Unfortunately, rural development generally has not been successful in the Pacific Islands. These small nations, despite concerted efforts by their governments and donor agencies to implement specific rural development projects, continue to be divided between the core and comparatively affluent urban centres and the peripheral and poor rural communities.

The failure of rural development projects has become a topical issue in the Pacific Islands because of the desire to have more meaningful development that will benefit the people and ensure the effective use of resources. The failure of these rural development projects to achieve their objectives has caused constant debate on their role and nature, and the requirements for effective development activities. These issues explain why this study was undertaken. The main argument of the thesis is that the failure of such projects results from the application of inappropriate rural development approaches.

This study is an attempt to understand the factors that cause the failure of rural development projects to meet both their stated objectives and also the needs of rural communities. The thesis demonstrates:

- the need to formulate development projects that are appropriate for the rural communities
- the importance of understanding the people involved and their circumstances
- the need for project evaluation and iterative learning

- the significance of addressing the various factors that provide the projects with a realistic chance of meeting the objectives and meeting the needs of rural communities for which these projects were intended.

This chapter provides the background for the study, and is divided into four other sections. Section 2 introduces rural development and some of the theories that have affected the process in the Pacific Islands in general, and fisheries development in Fiji in particular. The third section introduces the study objectives; and the fourth section describes the scope of the study and the two case studies. The final section summarises the structure of the thesis.

## 1.2 Rural development

For the purpose of this study, rural development is defined as the attainment of a particular kind and quality of life which people desire to achieve in rural areas (Lasaqa 1973:306) through 'planned programmes with desired goals and necessary processes' (Plange 1996:127).

Thus, the main rural development objectives include:

- increasing the availability and widening the distribution of basic necessities such as food, shelter, health and security
- raising the living standard through the provision of higher incomes, more jobs, better education and greater emphasis on cultural and human values
- expanding the range of social and economic choices available to individuals and nations and freeing them from domination by and dependence on other people and nations and from other causes of ignorance and human misery
- ensuring local autonomy and the protection of traditional custom
- promoting self-reliance and self-generating initiatives

(Johnston *et al.* 1981:78; Lea and Chaudhri: 1983:12–13; and Mehta 1984:5).

Components of rural development include people, the ecological setting in which people live, means of production, appropriate technology, and appropriate institutions (Johnston *et al.* 1981:78; Mehta 1984:15–17). People are the essence of any form of development, which needs to be accompanied by economic progress and a reduction in ethnic and social inequalities. The ecological setting is important because all developments are underpinned by natural and environmental endowments. In addition, rural development must

be organised around activities and services that have clearly understood production methods and appropriate technologies and methodologies. The effective implementation of a rural development programme is also largely dependent upon the presence of institutional capacity to mobilise the social, political and economic resources of the disadvantaged communities. These components are important if the people are to be genuinely involved in helping themselves and in determining their development activities. It is also important that rural development activities should be time bound and target oriented (Mehta 1984:178).

Many rural development projects have not achieved their stated objectives nor have they resulted in self-reliance because their failure has led to their termination. A range of factors such as poverty, poor economic performance, ethnic differences and political inexperience have hampered the performances of the communities involved in these development projects. In addition, there have been inappropriate approaches and unrealistic goals. Not surprisingly, the debate on the cause of failure of rural development has been split between those who blame the design and the process itself; and those who blame the people in local communities.

Rural development projects reflect the development theories and approaches adopted in a country (Higgins 1989:85; Fisk 1995:67; Leys 1996:157). These development theories and approaches are extremely varied. Amongst the key development theories and approaches that have underpinned rural development in the Pacific Islands are Modernisation, Integrated Rural Development, Needs Based Development and Sustainable Development.

Rural development projects are intentional sets of activities that are designed to transform given inputs into desired outputs in order to achieve certain objectives (Johnston *et al.* 1981:274; Forsyth 1997). Rural development projects therefore must address specified rural development objectives. Important considerations when deciding on projects include the costs and benefits of the project, whether the net benefits outweigh the costs in the immediate or long term and the source of funds. Projects may be classified as either 'commercial' or 'developmental'. Commercial projects are expected to earn enough revenue from their output to cover their entire cost while

developmental projects may earn some revenue but this may not always be sufficient to cover the entire cost of undertaking the projects. With developmental projects, the perceived long-term benefits to society—both pecuniary and non pecuniary—rather than their immediate commercial viability are the deciding factors (Forsyth 1997).

This research aims to explore ways of making rural development projects and programmes more successful and fulfilling for the people involved. To do that, it is crucial that the reasons for the failures of past projects are studied so that suggestions can be made on how the experience can be made satisfactory for the people involved and their countries.

### **1.2.1 Rural development issues in the Pacific Islands**

The need for effective rural development is particularly serious in the small Pacific Islands because of their limited resources, developing economies and the high proportion of their population in rural areas where people live in semisubsistence communities. At the international level, the Pacific Islands are remote in terms of the global economic system. They are isolated from both the main markets for exported goods and the main suppliers of imported products. The islands are both small and separated by vast stretches of ocean. Remoteness in the Pacific Islands is well exhibited in Kiribati, where travel visas are required by people travelling from Tarawa, the capital, to Christmas Island, one of the outer islands, because they need to go through Fiji or the Marshall Islands to Honolulu and then to the Line Islands. The problem of high transport costs is serious in these countries because low production levels make regular shipping services uneconomic. Furthermore, the small economies restrict the supply of goods and services, and hinder the pursuit of rural development initiatives.

These characteristics are also evident at the national level, where the countries are divided between the urban centres and the rural hinterlands. Rural development problems within the Pacific Island countries are exacerbated by their high youthful population, widely distributed rural population, poorly developed infrastructure, restricted capacity and limited resources. As a result, rural development is needed in all elements in the rural areas, including those aimed at improving living conditions through education,



health and employment, to those associated with the development of infrastructure, capacity and economic activities.

In a recent study of the Aboriginal communities in Australia, it is argued that improvement in the living conditions in rural areas can only be realised if the policies and strategies are economically viable, environmentally sustainable in the long term, consistent with social values and institutions, and encourage 'grassroots' participation (Young 1995:38). This argument is also relevant in the Pacific Islands but emphasises that rural development must be tailored to the conditions in individual countries. This is why many development approaches based on development theories developed elsewhere are inappropriate. In Tuvalu, Kiribati, Tokelau and Niue, for example, the private sectors are virtually nonexistent and the governments in these countries are relied upon to organise rural development (Carew-Reid 1989:17-19, 113). In these countries, the emphasis on private sector development as has been recently advocated by international development agencies such as the World Bank and the Asian Development Bank (ADB) are not appropriate (ADB 1996; World Bank 1996). The people are poorly trained and are mostly involved in the nonformal sector. In many of these small countries, even the basic necessities such as usable space, freshwater and energy are lacking.

It is therefore not surprising that the experiences of the ADB and other donors in the Pacific Islands since the late 1970s suggest that institutional and sociocultural issues are the main causes of limited project success in Pacific Developing Member Countries (PDMC). According to the ADB, the limited success of rural development projects in the region is attributed to:

- lack of attention to smallholder behaviour and motivation
- lack of adequate, detailed sociological data for project design
- insufficient attention given to cultural and land tenure problems, or issues of technological change
- lack of sociocultural advice during the implementation phase
- insufficient understanding of social impacts of the projects
- the need for more local participation in project identification and design (Schoeffel 1996:xi).

These problems imply deficiencies in the way the projects are formulated because they ignore the context in which rural development takes place. The problems reflect the main criticism of the development initiatives that are formulated elsewhere and are introduced in a top-down fashion into locations where conditions are markedly different. On other occasions, the necessary requirements of rural development may be appreciated, but these are not addressed because of the complexity of incorporating these into the current rural development process. In this study, using the rural fisheries development programmes in Fiji as a case study, I will show why it is critical to take into consideration these factors when developing and implementing rural development projects. I will also suggest ways of solving the problems to ensure a better system of introducing development projects in the future.

### **1.2.2 Challenges in fisheries development in the Pacific Islands**

Fisheries are a source of food, employment and income and are important in all Pacific Islands (Johannes 1989:86; Rodman 1989; South Pacific Commission 1994; Preston 1997). For this reason, it is vital that the sustainable development of fisheries is emphasised. Unfortunately, the consistent and increased effort and the introduction of new commercial fisheries development initiatives have the potential to result in intensive fishing that can threaten the sustainability of the main fish stocks.

Fisheries development in Fiji has been persistently pursued under current economic development programmes (Shepard and Clark 1984:4). It is an important part of the Government's overall development goal. Development strategies require proper planning and implementation to ensure that people's needs are adequately met while simultaneously guaranteeing that the resources are sustainably utilised. This has not been the case in Fiji, where fisheries development up to now has been noniterative, indecisive, problematic and expensive. In Fiji and other Pacific Islands, capital, infrastructure, capacity building and technical support services have been provided under various economic and rural development arrangements to stimulate fisheries development. Yet, all of these elements have been inadequate and have failed to guarantee the success of fisheries development initiatives. The result has

been the repetition of the trial and error experiences that have characterised fisheries development up to now.

Failed fisheries development projects have resulted in the resources being intensively exploited, as was the case with the bêche-de-mer fishery; or in people losing interest in the operation, as was the case with the collapsed community fishing projects. The collapse of one fisheries project, and the subsequent introduction of another, only burden and frustrate those involved, giving the overall impression of an inherent 'boom and bust' cycle within fisheries development (McElroy and Albuquerque 1990:48). Such a process is wasteful and should not be allowed to continue, as it contradicts the goals of development that are meant to benefit the people, as well as protect the quality of the resource base and the environment in general.

Fisheries development and management are complex because of the multitude of factors that influence them and which have to be addressed in different areas. At present, the failure to do this has meant that fisheries projects, in most instances, expand towards a peak and then decline into insignificance because the people give up, the schemes fail or the resources collapse. In such cases, 'the resulting wastage of the already scarce resources not only worsens the economic situation but also demoralises and demotivates people' (Liew 1990:83). Nevertheless, little has been done to change the way fisheries development projects are planned and introduced.

Most studies about fisheries development in Fiji have merely described the nature and characteristics of fisheries development; they have not evaluated the development projects (Hornell 1940; Cavuilati 1982; Evening 1983; Raj *et al.* 1986; Prakash 1987, 1989; Richards *et al.* 1994; Veitayaki 1995). Others have been on specific aspects of fisheries such as fisheries development, the state of the resources, resource utilisation and the impact of fishing (Lal and Slatter 1982; Lewis *et al.* 1983; Beeching 1993; Rawlinson *et al.* 1995; Jennings and Polunin 1996a, 1996b; Preston 1997) or on consultancies and government reports (Joint Fisheries Strategy Mission 1988; Kailola 1995b; Pita 1996). These studies, while providing useful information, have not discussed the factors that influence the performance of development projects from the perspective of the people who were targeted by these initiatives. As a result,

the poor performance of fisheries development projects has been unquestioningly accepted without any attempt to make improvements.

At the moment it seems that fisheries development projects are being undertaken haphazardly and capital is being injected into the development of different aspects of the fisheries sector without the necessary background investigation and careful planning. In addition, there is no system to evaluate the projects that are implemented. Consequently, a system of trial and error is adopted with the self-interest of government officials appearing to be central to some of the projects. This has been a feature of fisheries development in Fiji and results in poor performances. For example, the furore relating to the alleged misuse of the Commodity Development Framework (CDF), that I will return to later, illustrates the types of problems that I am dealing with (Wise 1997:1; Kissun 1999:1; Ragogo *et al.*1999:3) and the need to have a new system for introducing rural development projects such as fisheries.

### **1.3 Study objectives**

The aim in this study is to examine the development approaches that have been applied to rural development in Pacific Island countries and assess how these have influenced the failures of rural development projects.

More specifically, the objectives of this study are to:

- review the rural development theories and their application in the Pacific Islands, with particular reference to the Fiji experience
- investigate the problems of rural fisheries development projects to identify the factors affecting their performance
- discuss possible solutions to the problems of fisheries development projects
- identify ways in which rural development projects can be improved in the future
- provide the basis for further studies on the evaluation of fisheries development projects.

This study will also highlight the generally accepted perceptions of rural development and how these differ from reality.

## **1.4 The scope**

The study is limited to fisheries development in Fiji, although the results will be applicable to other sector-based rural development. Although a comparative intraregional analysis might have been more informative because of the regional nature of most fisheries development projects, financial and logistical requirements ruled against a comparative study. However, given the focus of this study in assessing the projects from the perspective of the people who were expected to benefit from these development activities, an indepth country-specific focus is better suited as it emphasises the importance of cultural familiarity and depth. This would have been compromised if a comparative study had been undertaken in the time available. My personal knowledge of the local fisheries, people and sociocultural and economic systems is an advantage as this allowed me to understand and interpret the issues from the communities' perspective (Clarke 1971:206; Lasaqa 1973:311; Overton 1993:99). Also, it is critical to have a good understanding of the local situation in this study because the thought patterns are different, in that they relate to an unfamiliar set of objectives and concepts, and a set of values which vary somewhat from those of an outside researcher (Brookfield 1973:15).

The main argument in this study is that the failures of fisheries development projects are the result of inherent problems that are related to the use of inappropriate rural development approaches. Secondary arguments are that the indepth assessment of selected projects would provide empirical evidence of the factors that influence the outcome of fisheries development projects and ways in which the problems associated with these factors can be best addressed. This will help to develop better methods of identifying, formulating and implementing rural fisheries development projects

### **1.4.1 Case studies**

Fisheries development initiatives undertaken in Fiji to enhance rural development included the boat building project, which involved the building and sale of subsidised fishing boats, and the seaweed farming project; the two case studies analysed in detail in this thesis. These projects, which covered a range of activities, were similar in some respects but were different in nature.

While the boat building project was aimed at improving local people's fishing capacity, seaweed farming required people to cultivate seaweed for an export-based industry. In the process, the projects were to provide rural communities with sources of income to enable them to improve their lifestyles. Both the projects also were crucial to the national economy. The Fisheries Division undertook the projects with close cooperation from other relevant organisations including other Government departments and donor country development agencies.

The case study projects were part of regional fisheries development initiatives that were undertaken in the Pacific Islands (Zann 1980, 1982; McHugh and Phillipson 1988; South 1993b, 1996; Pickering and Ledua 1999). In Fiji, the projects involved a wide cross section of people in different areas across the country. The focus of the selected projects on the provision of cash income was important, because this remains one of the main reasons for rural development projects undertaken in developing countries like Fiji.

Both projects were associated with rural development and were beset by problems arising from the manner in which they were introduced. Government regarded both the projects as failures in spite of their initial popularity with the targeted people. Although there were some successful ventures within each programme, both did not function well because of inherent problems.

Despite, the Government's own admission of failures of the two case study projects, one has already been reintroduced. The other is being considered for reintroduction. This makes this study particularly timely because it is imperative to canvas new methods of undertaking such projects so as not to repeat past failures. At the moment the same mistakes are repeated because the same inappropriate rural development philosophies underpin the development approaches used.

## **1.5 The structure of the thesis**

Apart from this introduction there are eight other chapters in the thesis. Chapter 2 is an evaluation of the main theories and approaches that have underpinned rural development in Pacific Island countries. The chapter also provides an overview of the issues and problems that characterise rural

## 2 Rural Development Theories and their

development in the Pacific Islands. Chapter 3 provides a brief overview of rural development in Fiji, outlining its historical and socioeconomic context, elements that exert a strong influence on rural development.

Chapter 4 describes the methodology for the study; and Chapters 5, 6, 7 and 8 present the main analysis. Chapter 5 examines the fisheries development objectives, the development approaches that have influenced them and the development issues that characterise these activities. Chapters 6 and 7 introduce the case studies and evaluate them separately. In Chapter 8, the problems of rural development projects are analysed to highlight the shortcomings of the development approach taken; this chapter also suggests ways of addressing these.

Chapter 9 presents the implications of the research for rural development projects and suggestions on how these should be implemented in the future. The suggestions promote an alternative approach to rural development and provide the basis for further study in the future.

## 2. Rural development theories and their application in the Pacific Islands

### 2.1 Introduction

Rural development theories and approaches provide the conceptual underpinnings of the development policies, plans and strategies for the transformation from subsistence to cash-based economies in rural areas (Leys 1996:7). In the Pacific Island countries, national development plans have emphasised economic development activities with a distinct Pacific flavour which emphasises adherence to culture and local conditions. The transformation, however, has not occurred as expected. Instead, there are disparities between urban and rural societies (Lasaqa 1984:140). This is a challenge that continues to be faced by all Pacific Island countries.

This chapter contains the theoretical conceptual basis of the study. It has two parts. The first reviews the main rural development theories and approaches that have been applied in developing countries. This analysis shows the extent to which the main development approaches have evolved, from single and simplistic approaches towards complex and multidimensional ones. The focus of the theories has also evolved with the emphasis on improving living conditions in rural areas, increasing participation of local leaders and communities, and devolving increasing responsibilities from the central government to the authorities in rural areas. The second part discusses features of rural development in the Pacific Islands.

Since attaining political independence in the late 1960s and 1970s, the Pacific Islands have focused their attention on self-reliance and self-determination. The change in political status, however, has only resulted in the emergence of small microstates, and has not resulted in the desired improvement of life in rural areas. Failures of development projects together with the need to justify the better use of resources at all levels have resulted in a campaign to improve the performance of development projects. For this reason, we need to understand the factors that influence



the outcome of rural development particularly their failures. This in turn should provide insight and lessons into how the difficulties facing rural development in the Pacific Islands can be addressed. Features of rural development in the Pacific Islands include the emphasis on economic development, the important role of government, and the significance of the Pacific Way. In addition, there has been a marked failure in the Pacific Islands to respond positively to the high investments in development programmes (the Pacific Paradox) and to tailor development to meet specific local needs.

## **2.2 Rural development theories and approaches**

Rural development theories that have influenced rural development approaches adopted in the Pacific Islands include modernisation, integrated rural development, needs based development and sustainable development (Table 2.1). Related to these theories are outcomes and explanations such as underdevelopment and dependency theory and approaches such as decentralisation and ecodevelopment.

### **2.2.1 Modernisation theory**

Modernisation theory describes development as 'a complex transition from traditional primordial society based on multiplex, affective and ascriptive relationships, to modern society, based on role separation, rational relations and achieved status' (Leys 1996:110). The process relies on external remedies including monetary aid, know-how, markets, consumer goods, habits and values to promote economic development (Rensel 1994:3; Brohman 1996:16; Leys 1996:12, 111; Plange 1996:128).

According to this paradigm, imperialism, colonisation and the state were necessary processes and institutions through which the ideas, capital and technology of the West were introduced to traditional societies. Rural development was thus pursued as a means of imitating development in Western European societies rather than for the welfare of the people in these areas. The process was state-driven and often reflected the need to further the interests of the colonial powers. The economic activities were associated with the policies of the colonial powers. For example, people

were forced into commercial activities to pay for the levies and taxes that the colonial governments introduced (Ravuvu 1988a:181; Esteva 1992:18).

**Table 2.1 Features and emphasis of rural development theories.**

Theories	Features	Emphasis
Modernisation	Changes and transforms traditional societies into modern cash-based ones using Western methods, expertise and capital	Economic development, principle of trickle-down through growth centres to periphery
Integrated Rural Development	Rural poverty stems from related problems that require coordinated responses	Externally planned, interdependent and integrated development packages
Needs Based Development	Economic development to secure basic human requirements (food, shelter, clothing, employment and security) focuses on assessment of need at local level	Holistic approach, local participation, and emphasis on self-respect and self-reliance
Sustainable Development	Emphasises combined economic, sociopolitical and ecological approach stressing inter and intra generational equity	Appropriate and lasting development suited to local conditions

Source: Veltayaki, 1999. Literature review

However, practical rural development experiences have disproved most of the assumptions made by the modernisation theorists. For example, Nietschmann (1973:2) described the manner in which forces generated from larger and more complex external social and economic systems changed, disrupted and destroyed the ecological and social stability of the traditional Miskito system in Nicaragua (Nietschmann 1973:2). The study also highlighted the reasons why contemporary development planners dealing with traditional communities need to understand the reasons behind the options people take in these situations (Axinn and Axinn 1997:91).

Modernisation theory has been criticised for assuming that everything traditional should be replaced by contemporary systems. Nietschmann's (1973) study showed that traditional societies have the capacity for self-corrective adjustments that enable them to participate in a money-based market economy. Likewise, Lasaqa (1973:304) also favoured a more 'give and take' approach between the traditional and contemporary systems because it could cope better with existing local conditions. At the moment it

is normal for modernisation to be associated with imposed external ideas, values and ways of doing things that are found later to be inappropriate.

The socioeconomic changes taking place require any newly introduced concepts to be examined and modified to suit the recipient's needs at that time. The continued failure of rural development projects justifies the calls for new ways of addressing the problem. As Blaikie (1996:5) argued, the steady evidence of the failure of development strategies and projects to reach their objectives calls for new claims to be made, new alliances to be forged and new dialogue to be initiated. One of the main questions is how to help the rich and the poor to work together on lessening the gap between them, and how to enable the rich to accept less and the poor to take more (Chambers 1997:9). This may not be easy to achieve but it should be the first step to achieving rural development that aims at improving living conditions in rural areas rather than merely emulating the urban centres or rural development in developed countries.

Modernisation theory has also been criticised for not accurately depicting the influence of colonialism on the emergence of the 'plural society' and the 'dual economy'. A plural society is one where 'whole groups are differentiated by some attribute such as colour, language, or national origin, possess value systems differing from one another, and combine only at the economic and political levels to form a single national society' (Brookfield 1972:6). The dual economy on the other hand, refers to 'the presence within one integrated economic system, such as that of a state or territory, of sectors differing in scale, organisation, efficiency and economic behaviour' (Brookfield 1972:7). Both of these conditions are prevalent in developing countries in the Pacific Islands, where they influence production, markets, cash economies and rural development.

Many of the rural development approaches were based on the assumption that underdevelopment and poverty are economic problems and that economic growth is the answer to that problem. Economic growth, however, is not an end in itself but a means towards the attainment of other ends that are important to the improvement of people's lives (Fisk 1995:202). It is important also to note that economic development is often

controlled by settlers and immigrants and not by the indigenous people, who remain outside the influence of the development initiatives mounted in their name. Furthermore, that rural development is not merely a matter of removing obstacles and providing missing components; it is a lot more complicated and difficult to control.

Black (1991:144–82) used paradoxes to illustrate how badly suited modernisation theory has been to improving life in rural communities. He argued that credit is extended only to those who do not need it and that the primary beneficiaries of rural development programmes are the cities. According to Black, rural development is a process whereby affluent urban dwellers teach poor peasants how to survive in the countryside. Black has also argued that sophistication in the development processes is acquired and that programme continuity is maintained not by donor institutions but by client organisations and individuals. Although some of these paradoxes need qualification, they do allude to the problems that hinder rural development programmes in developing countries (Chambers 1983, 1997).

Critics of modernisation have also challenged the use of the Marshall Plan, which was the blueprint initiated by the US for the reconstruction of Europe after World War II, as the basis of development assistance in developing countries (McMichael 1996:47). According to these critics, the Marshall Plan equated development with economic growth and modernisation and only worked then because of the virtually endless aid that was provided to fund the work (Gibson 1993:142; Todaro 1994:73; Leys 1996:8). In developing countries aid is finite and resource endowment markedly different. In addition, the attitudinal, structural and institutional conditions in these communities are different from those in Europe, where conditions at the end of the war were conducive to the success of the reconstruction. In any case, the European countries that received the assistance were previously developed in their own right with associated cultural traditions and expectations.

Some of the strongest critics of modernisation theory have been the underdevelopment and dependency theorists. These critics argue that colonialism has resulted in the comprehensive and deliberate penetration

of local systems by the agents of external systems, who restructured the patterns of organisation and resource use to bring these into a linked relationship with their own systems (Brookfield 1975:1). Thus, developed societies, through the state, used their resources and technologies together with the labour and markets in the developing areas to further their own development (Johnston *et al.* 1981:45–6). According to these theorists, underdevelopment and dependency in rural areas are necessary conditions for the improvement of living standards in urban areas.

### **2.2.2 Underdevelopment and dependency theory**

Underdevelopment and dependency, according to theorists, are created when societies that used to satisfy their own economic needs are unable to maintain this process because of their domination by foreign influence and when the society's ability to survive and reproduce itself is due only to its links with imperialist societies (Johnston *et al.* 1981:74). Underdevelopment and dependency theories emphasise external and internal economic, institutional and political constraints on economic development in developing countries.

Dependency theory has three streams of thought: the neocolonial-dependence model, the false paradigm model, and the dualistic development thesis that it asserts can be traced in rural development (Todaro 1994:81). The neocolonial-dependence model attributes the existence and continuance of underdevelopment to the historical evolution of a highly unequal international capitalistic system of rich and poor nations. Such an unequal power relationship makes self-reliant and independent development in developing countries difficult. The false-paradigm model ascribes underdevelopment to the faulty and inappropriate advice provided by well-meaning but often misinformed, biased and ethnocentric international 'expert' advisers. The poor understanding of the local situation by these experts and their personal interest drives them to promote and advance their particular model of solving development problems unilaterally. Consequently, these advisers provide sophisticated concepts, elegant theoretical structures and complex econometric models which lead to inappropriate policies (Chambers 1983:71, 1997:16).

The last of these three streams of thought, the dualistic-development thesis, is associated with the coexistence of contradictory sets of conditions in a given space. Coexistence is chronic and not merely transitional, as the gap between the contradictions often widens and worsens. The interaction between the superior and inferior elements is such that existence of the superior elements does little to improve the inferior element, let alone trickle-down to it (Todaro 1994:83).

The most significant shortcoming of the dependency theory is that it implies that there is an alternative and a preferable kind of development of which the dependent economies are capable, but which their dependency prevents them from achieving. In reality, this alternative does not exist (Leys 1996:113). Thus, underdevelopment and dependency theory is explanatory of the results of modernisation rather than what underpins rural development plans and strategies. Underdevelopment and dependency have also been criticised for overemphasising the determining influence of external conditions at the expense of the internal processes (Rensel 1994:4). Moreover, the theory does not specify how the national goals of economic growth and better living standards in rural areas should be pursued.

According to the dependency theorists, developing countries must reduce the links with the metropolitan countries and embark on their own brand of economic growth if they are to succeed (Leys 1996:12). However, this is unlikely to happen given the state of interdependence countries are in now and the uniform rural development strategies that are pursued in different areas. The most convincing contribution of the dependency theorists is the recognition of the costs that people in rural areas are paying for the capitalist development of urban centres.

### **2.2.3 Alternative approaches to rural development**

The alternative approaches suggested for rural development have been the result of the rejection of the top-down, technocratic and state-led models of development as wrong and incomplete (Higgins 1989:107; Blaikie 1996:10). The argument is that government officials and development experts who formulated these top-down models have ignored the

circumstances in the communities where the recipients lived. The alternative approaches include integrated rural development, decentralisation, needs based development, ecodevelopment, sustainable development, gender and local participation and empowerment.

These approaches promote more participatory and multidimensional methods. They focus attention on improving living conditions through the provision of food, health, education and the problem solving techniques of local communities. The approaches promote a flexible 'process oriented' planning in which local people use their own knowledge and skills to formulate solutions to their problems. They also emphasise that while the right methods are required for development, no development orthodoxy can provide a blanket solution to the problems of all developing countries at all times (Brohman 1996:197). Thus, what is required is that 'every country must be understood in the uniqueness of its own historical development and its own distinctive relations with metropolitan powers' (Leys 1996:115). This is why the local situation should be well understood and the local people genuinely involved in rural development projects.

Common elements of the alternative approaches include:

- a move towards direct distribution measures targeting the poor, instead of continued reliance on the eventual indirect trickle-down effects of growth
- a focus on local, small-scale projects often linked with either rural development initiatives or urban, community-based development projects
- an emphasis on basic needs and human resource development through the provision of public goods and services
- a refocusing away from a narrow growth-first definition of development towards a more broad based, human-centred concept
- a concern for local or community participation in the design and implementation of development projects
- a stress on self-reliance, which might extend to a variety of scales, to reduce outside dependency and create the conditions for more cooperative, socially and environmentally sustainable development

(Brohman 1996:219).

These elements have increasingly characterised rural development in developing countries, where previous development approaches have failed to improve the wellbeing of rural populations. In many of these instances, development projects had ignored the people (Chambers 1983, 1997; Stokke 1991:75; Blaikie 1996:29). Other criticisms include the gap between the rhetoric and actual practice. Too many alternative approaches have paid lip service to local participation in rural development while some of the approaches have actually undermined indigenous forms of social organisation and political practice (Brohman 1996:220).

### **2.2.3.1      *Integrated Rural Development***

Integrated Rural Development (IRD), which is closely related to Integrated Regional Development Planning (IRDP) or the territorial approach, is a multisectoral, multifunctional development initiative based on the assertion that rural poverty stems from related problems requiring a package of coordinated responses. IRD initiatives, such as the Magarini Settlement Project in Kenya thus promoted an integrated rural development approach. The activities of this land development and resettlement scheme ranged from increased agricultural extension services, rural credit and efficient distribution and marketing systems, to improvements in basic social infrastructure (Porter *et al.* 1991).

The Magarini Settlement Project illustrates important problems of rural development. Firstly, the signs of impending difficulties were overlooked because of the political importance of the project to Australia, the donor country. Secondly, project activities were not sustainable in economic and environmental terms (Porter *et al.* 1991:3). The result was total failure and embarrassment to AIDAB (now AusAID), which had planned to spend A\$10 million between five and seven years but instead spent more than two to three times the amount and stayed for 14 years. In the end the project was abandoned by AIDAB and transferred to an NGO. The experience showed that better management techniques, logical frameworks, tight financial control and cost-benefit analyses were needed to take charge of rural development projects. The failure of this rural development project highlighted the dilemma of how a project planned in Australia could work in



Kenya. This, however, was acceptable at the time because Australia had completed the Snowy Mountain Irrigation Scheme and perfected the technology for dry area farming, both of which involved skills supposedly relevant in Kenya.

The lessons to be learnt from the project are many. First, there was an urgent need to enhance food security in a dynamic environment with pressures from unsustainable farming practices by marginal smallholders and conflicting interventions by distant authorities (Porter *et al.* 1991:6). Second, improved appraisal techniques were needed to reduce the uncertainties of investment outcomes and the tendency for the intended beneficiaries to be detrimentally affected by the intervention. Third was the need to overcome the problems of weak and inefficient recipient governments and deal directly with the people in the communities. Last, the unsustainability and inappropriateness of rural development assistance prompted a re-evaluation of the relevance of indigenous knowledge and institutions for coping with uncertain physical and social circumstances. This is why local communities need to be consulted on development initiatives intended for them.

The IRDP programme promotes major linkages through transport and communication, economics and markets, population movement, technologies, social interaction, service delivery, and politics, administration and organisations. These linkages are necessary to:

- relieve pressure on the urban centres to provide housing, transport and jobs
- reduce regional inequalities by spreading the benefits of urbanisation
- provide a locally responsive and efficient political and administrative system
- alleviate poverty in the periphery
- stimulate rural economic activities by providing markets

(Brohman 1996:229).

Both IRD and IRDP are still top-down and externally driven. The approaches depend on people generating a commercial surplus to stimulate peripheral economic growth. In practice, however, it is difficult to

see how the rich and powerful can be persuaded to assist the needy and poor (Chambers 1997:11). Innovative local leadership is a prerequisite for the success of such initiatives.

### **2.2.3.2. Decentralisation**

Decentralisation has been emphasised in many countries in recent years, in an effort to reduce inequitable development between urban and rural areas. The strategy promotes the redistribution of power and infrastructure away from the main centres in an effort to overcome economic stagnation in rural areas. The aims of decentralisation are to:

- reduce regional inequalities
- encourage more appropriate development of human and natural resources
- alleviate poverty through redistributive measures
- facilitate more effective policy implementation via improved local responsiveness and participation.

In addition, decentralisation aims to secure an adequate food supply; eliminate inefficiency, waste and corruption within government and bureaucracy; and increase the level of agricultural exports (Brohman 1996:229). In theory, decentralisation based on agricultural and fisheries development promotes participation, self-reliance, needs based development and appropriate development.

In many instances, decentralisation has resulted in wasted resources, particularly in growth centres no longer functioning as such. Contrary to earlier beliefs, the growth centres established under decentralisation have not stimulated growth. Instead, these centres have quickly declined as they succumb to competition from the major centres. With the development in transport and communication, most of these growth poles have been bypassed by people who prefer to do their business in the main centres. Thus, the theories have been 'right in stressing the need to recognise the importance of a particular sector and wrong in presenting it as a "leading sector" whose expansion will pull all others along with it' (Higgins 1989:107). As Higgins further argued, a preferable approach is for each aspect to be seen as an 'integral part of the overall development process,

with ramifications in other sectors that must be studied and taken into account' (1989:107).

### **2.2.3.3 Needs Based Development**

By the early 1970s, the vision of development in rural areas catching up and equalling the level in urban areas had given way to more modest ambitions, such as redistribution with growth (Leys 1996:26). By the end of the decade, redistribution with growth had given way to meeting the basic needs of the poor. The needs based development approach resulted from the knowledge that economic growth and the satisfaction of basic human needs are not always compatible. In fact, the needs based approach represented 'the rejection of the idea that rapid growth of national income would in itself solve the problem of very poor people in developing countries' (Higgins 1989:132).

It has also been realised that rural development, if it is to work well, cannot be imposed from outside a community in a top-down fashion because rural development is not simply about financial flows and other macroeconomic considerations. Rural development, according to the advocates of needs based development, fundamentally concerns 'the capacity of a society to tap the root of popular creativity, to free up and empower people to exercise their intelligence and creative wisdom' (Brohman 1996:186).

Although expectations differ in different communities, there is a minimum standard of living that a society desires for all its people. The standard should cover 'the minimum requirements of a family for personal consumption: food, shelter, clothing and access to essential services such as safe drinking water, sanitation, transport, health, education and an adequately remunerated job for anyone willing to work' (Arndt 1987:102).

The mid 1990s view of how to achieve sustainable livelihoods, enhanced capabilities, and equity includes:

- combining and balancing the state and the market, to benefit, serve and empower the poor
- seeking livelihood-intensity in social and economic change
- securing human rights for all, including space, the equitable rule of law and secure rights of property and access for the poor

- ensuring means of survival for all, comprising access to livelihood resources and/or employment with safety nets
- providing basic needs for all, including health, education, water and housing
- facilitating participation, with all approaches (which are) bottom-up, with the process of learning, rather than top-down, with blueprint plans

(Chambers 1997:11).

Needs based development may also take the unified/integrated approach, which is based on:

- abandoning the distinction between economic and social development
- dropping the jealously guarded spheres of specialised agencies
- fabricating links among government departments to allow better integrated development policies and plans
- adopting an interdisciplinary approach to formulation and preparation of plans
- planning for all the objectives of development rather than for only growth and trickle-down
- assuring that the benefits of development reach all social groups, particularly the disadvantaged groups
- treating development as a complete societal process with concern for style of development and quality of life as well as better income

(Higgins 1989:112).

The integrated approach emphasises the integration of economic and social development planning, and of national, regional and local planning, interdisciplinary analytical methods and the treatment of development as a feedback process in which distinctions between the ends and means, causes and effects, are indistinct (Higgins 1989:121). The approach has been controversial because of its multidisciplinary focus that considers all the objectives to be served by the project and all the feedback resulting from the projects.

Although the approach promotes the importance of economic development that has a human face, such an integrated approach has been criticised because of its inability to provide simple remedies for rural development (Esteva 1992:15; Brohman 1996:230). The integrated approach has been a

part of the rhetoric for some time and yet little work has been achieved in putting it into operation. For example, rural development is still planned and implemented through sectors and government's line ministries that compete with each other despite the requirement for integration and cooperation. In addition, the approach does not consider the environmental costs of development, a concern that was addressed in the formulation of the following approach.

#### **2.2.3.4 Ecodevelopment**

Ecodevelopment is development that takes care of environmental limits and ecological requirements (Glaeser 1986:1; Adams1995:5). Elements of the approach include basic needs, self-reliance and environmental compatibility (Adams1995:52). The approach is the result of the effort by the International Union for the Conservation of Nature (IUCN) to implement the World Conservation Strategy (WCS) through national and international initiatives. According to WCS, 'Human beings, in their quest for economic development and enjoyment of the riches of nature, must come to terms with the reality of resource limitation and the carrying capacities of ecosystems' (Adams 1995:47). Ecodevelopment emphasises that people are active participants in providing for their needs.

Ecodevelopment promotes development strategies that use local resources in ways that sustain the ecological system and provide for basic human needs (Brohman 1996:309). The goal of ecodevelopment is to improve the situation in an area and not to rely on development only in terms of Gross Domestic Product (GDP), economic growth index or some other abstraction. Ecodevelopment calls for developing countries to be more self-reliant and to create strategies appropriate for their own ecological and cultural situations rather than look elsewhere for solutions to their development problems. The approach emphasises:

- harmonising consumption patterns and lifestyles to environmental needs
- using appropriate technologies and ecologically based productive systems
- maintaining low-energy profiles and promoting renewable energy sources

- limiting depletion of nonrenewable resources through recycling and other means
- finding more socially and environmentally sustainable uses of existing resources
- employing ecological principles to guide land use, settlement and other developments
- utilising decentralised planning methods to encourage local participation

(Brohman 1996:308).

This approach was prominent until the publication of the Brundtland Report in 1987, which is associated with the emergence of sustainable development (Adams 1995:58).

### **2.2.3.5 Sustainable development**

Sustainable development is development by which the natural resource base is not allowed to deteriorate. It emphasises the role of environmental quality and inputs in the raising of people's real income and quality of life (Pearce and Warford 1993:8). Moreover, it promotes the importance to humans of environmental resources and an appreciation of the extent to which environmental degradation has been caused by human activity (Stokke 1991:4; Boyden and Dovers 1997:25). According to the theory, environmental degradation is caused by factors such as poverty, population growth, indebtedness, misguided multilateral aid policies, overconsumption, environmentally insensitive private foreign investment and exploitation (Pearce and Warford 1993:6). Major environmental threats include people living off the planet's capital as the natural resources are not allowed recovery time; overloading and overwhelming the environmental sinks intended to safely absorb wastes; and the rapid degradation in parts of the planet (Schmidheiny 1992:17–8).

Sustainable development is a process of change in which the exploitation of environmental resources, the focus of investments, the orientation of technological development and institutional changes are designed to be consistent with present as well as future needs (Cicin-Sain 1993:15–6). Sustainable development is 'guided by a basic philosophy which

emphasises development to improve the quality of life of the people (assuring equity in the distribution of benefits flowing from development) and development that is environmentally appropriate, making proper use (and sometimes nonuse) of natural resources and protecting essential ecological processes, life support systems and biological diversity' (Cicin-Sain 1993:17). Therefore, 'sustainable development entails a continuous process of decision-making in which certain questions are asked and whereby the "right" choices and decisions are made. There is never an end-state of sustainable development since the equilibrium between development and environmental protection must constantly be readjusted' (Cicin-Sain 1993:15).

Sustainable development requires:

- a political system that allows for effective citizen participation in decision making
- an economic system that generates surpluses and technical knowledge on a self-reliant and sustained basis
- a social structure that provides for solutions for the tensions resulting from disharmonious development
- a production framework that respects the obligation to preserve the ecological base for development
- a technical system that searches continuously for new solutions
- an administrative system that is flexible and has the capacity for self correction
- an international system that promotes sustainable trade and finance (WCED 1987:65; Burrows *et al.* 1991:161).

Approaches to sustainable development need to be tailored to the sociocultural, ecological and economic realities of the locations in which the resources are being managed. Thus, an appropriate framework for sustainable development is one that:

- searches for appropriate solutions to contextually specific environmental problems
- creates a spirit of discovery and enquiry in collaboration with local people
- recognises the validity of traditional environmental knowledge and practices

- deepens popular participation and empowerment along with sustainable development practices

(Brohman 1996:323).

Most sustainable development projects have been reduced to minimising the negative ecological and social effects of market-led-growth-first development strategies. However, economic instruments and incentives can also contribute to sustainable development. The effective use of economic incentives requires:

- an understanding of the cost and benefit of alternative environmental policies and a recognition of who gains and who loses because of the instruments
- data on the quantity and quality of environmental assets and resource stocks, who has access to them and their current and projected rates of use
- assessments of technological and institutional opportunities and constraints in the production of goods and services and in the abatement of pollution
- information about the substitution possibilities that will allow both policymakers and the regulated community to assess potential tradeoffs between more or less environmentally harmful products and production processes

(OECD 1992:81).

In addition, the economic incentives require an enforceable legal structure that clearly defines property rights and resource tenure, provides the legislative authority to use the instruments and specifies who has legal standing or jurisdiction in the use of the instruments.

For sustainable development, the balance between human capital and natural assets needs to be determined by the present generations within the frameworks of existing technological knowledge and social organisation without foreclosing the options available to future generations (Lal and Lal 1994:50). The assimilative capacity of the environment is limited and in some instances can easily be exceeded. It is now certain that technological waste products and toxic substances affect the resilience and adaptability of the biotic systems. On the other hand, humanity is uncertain about how much longer the biosphere will be able to survive the ecological demand



imposed on it, which ecological change represents the greatest threat to the system, and the extent to which the poor are paying the cost of environmental degradation (Hamilton 1997:30).

#### **2.2.3.6 Gender**

Gender is a critical aspect of the alternative development paradigm as rural development has been associated with the subordination of women.

Gender considerations are essential if the benefits of economic development are to be equally distributed within the communities. This is because modernisation and the restructuring of traditional economies have altered the division of labour situation increasing in the process women's dependent status, workload and impoverishment (Momsen 1991:1).

Women today carry a double or even triple burden of work as they cope with housework, childcare and subsistence food production in addition to an expanding involvement in paid work.

The Universal Declaration of Human Rights in 1948 reaffirmed the belief in the equal rights of women and men but has achieved little. Since 1970, it was evident that economic development was not eradicating poverty through the trickle-down effects because of the problems of distribution to the various segments of the population. Consequently, women were the worst affected. Therefore, there was a need for rural development to transform itself into a process that is human-centred and environmentally conservationist.

Gender is a social phenomenon (Momsen 1991:4) and an important part of sustainable development (Samonte-Limjuco 1999:14. Agenda 21 has as one of its objectives the formulation and implementation of clear governmental policies and national guidelines, strategies and plans for the achievement of equality in all aspects of society including the promotion of women's literacy, education, training, nutrition and health and their participation in key decision making positions and in the management of the environment. However, the challenge is still to articulate the greater involvement of women in local, national and global economic activities.

### **2.2.3.7 Local Participation and Empowerment**

Local participation and empowerment are considered essential features of sustainable development (Ghai and Vivian 1995:1). These are based on the pretext that local communities need to be involved in development activities concerning them. Often, external experts and extension officers assume that the modern scientific knowledge they bring to the local communities is sophisticated, advanced and valid and that whatever local people may know will not be methodical and accurate. To these experts, therefore, rural development involves the dissemination of modern, scientific knowledge to inform and uplift the rural communities (Chambers 1983). This approach ignores that the resource use systems in rural areas have been in existence for centuries and that the rural communities have managed their resources up to now. In fact, the creativity and innovative capability of indigenous resource management systems illustrate the importance of promoting and supporting democratic and equitable social and political systems (Ghai and Vivian 1995).

Sustainable development requires permanent growth and development, which demands the total commitment and participation of people (Pearce and Warford 1993:28) and the empowerment of local communities. However, sustainability, remains a distant goal if development neglects the complex web of social relations which presently denies an adequate resource base to many poor communities, thereby preventing them from adopting more environmentally sound practices. In addition, an understanding of the local people's environmental knowledge is important to permit sustainable initiatives. For example, the social, cultural and institutional strengths inherent in traditional systems of resource use need to be used as a basis for sustainable development. Therefore, sustainable development must put local people's priorities first, by promoting methods that stress dialogue, participation and living by doing, emphasising the inseparability of social and environmental problems from the perspective of those experiencing them.

Common sustainable development issues that need to be addressed include understanding local conditions, traditions and culture, addressing

resource sustainability, capacity and institution building, integration with other sectors and equity. These social factors determine how people are involved in sustainable development activities. The communities should be consulted properly on any activity that involves them. This requires public consultation which is a long-drawn-out process that can be expensive but needs to be properly done if development is to incorporate local input. 'Quick fix' solutions that are inappropriately adopted do not stand the test of time (Ghai and Vivian 1995:15).

Although local participation is stressed in this approach, questions remain over 'who participates, what they participate in, how they participate and for what reasons they participate' (Brohman 1996:251). Involving the people, particularly the poor, in development has not been straightforward, as rapport has to be established with the local communities, a process which requires:

- outsiders to show humility, respect and interest in learning from local people
- restraint by the local experts so as not to wrongly interpret the views of locals
- the use of multidisciplinary and participatory research methods
- the utilisation of local knowledge, practices and materials whenever possible

(Brohman 1996:269; Chambers 1997:210–36).

In addition, local communities need to understand the implications of the agreements they are party to. For these reasons, effective participation is rarely seen unless there is good leadership. Traditional leaders have to be competent in existing socio-economic environment. They need to provide the inspiration and foresight to make decisions that will ensure happiness and security in the communities. This in turn will make the leaders enjoy communal support.

### **2.3 Rural development in the Pacific Islands**

Rural development experiences in the Pacific Islands demonstrate that all of these theories have had shortcomings. The countries have adopted five-year Development Plans for most of their independent years up to the mid

1990s when in accordance with international trends planning strategies emphasised short to mid term policies. The focus of these policies, as illustrated in Chapter 5 on fisheries development in Fiji, emphasise full exploitation of natural resources to provide basic needs for people, create employment and promote commercial and economic development. Modernisation is pursued using Western technology and strategies such as the use of development aid. However, while the rhetoric sounds convincing, the results are disappointing (ADB 1996:ii). Aid for instance, aims to benefit the poor but, in fact, mostly benefits the donors (Jackson 1990:140). Furthermore, the development based on economic growth has not trickled outward from the main centres. The result has been the existence of dual economies in many of the Pacific Islands. Integrated rural development promotes a coordinated approach to rural development but the determination of the factors to be included in the packages is incidentally still externally determined. Moreover, integration has not been achieved as the various sectors continue to pursue different goals.

In many of the Pacific Islands up to the 1970s, economic development was the prime objective of rural development (Chandra 1992:205). The rationale was that people needed to participate in an economic activity to contribute to the economy. Thus, people living in rural areas were urged to participate in development projects so that they could earn the money they needed to purchase the things that would better their lives. This type of development overemphasised the importance of economic activities and ignored the significance of the nonmonetary sector and the sociocultural context. Modernisation was equated with economic development, which was unfamiliar to the rural communities. Little consideration was given to the quality of life in rural areas and the contribution of the rural population to the economy through the sale of surplus in the markets and their nonmonetary means of self-sufficient living (Fisk 1995:204).

Needs based development focuses on reducing the emphasis on economic growth and promotes holistic development that encourages self-respect and self-reliance. This approach has not worked because the people in rural areas still lack the basic necessities. To make matters worse, people

aspire to the same things as those in developed economies, which are known to be environmentally unsustainable. Sustainable development is the buzzword today but means different things to different people. In rural areas hardly any change in approach has been seen even though these purported changes are explicitly stated in government policies and development plans.

While none of these approaches have been entirely effective, it is still possible to identify key features of what rural development entails. I agree with Higgins (1989:185) that 'we [have] been wrong in searching for a general theory of development that [can] be applied always and everywhere; perhaps the remedy [lies] rather in careful diagnosis of individual cases, with prognosis and prescription based on those individual diagnoses'. The following features of rural development in the Pacific Islands support the call for a new approach to implementing rural development projects.

### **2.3.1 Emphasis on economic development**

Economic development has been eagerly pursued in the Pacific Islands in the hope that economic activities and job creation can contribute to a strong economy that is required for improving living conditions in these countries. However, despite reasonable investment rates that are comparable to those in East Asia, the results have been poor. For instance, in spite of the gross investment rate of over 28 per cent, the average GDP growth between 1980 and 1992 was only slightly over 2 per cent (ADB 1996:ii). The poor economic performance has been blamed on the constraints such as the dependence on small domestic markets, large and inefficient public sector and the dependence on aid and preferential access agreements.

Moreover, the failures of many rural development enterprises in the Pacific Islands have been largely due to problems that are outside the control of local communities. The problems that have hindered economic development include physical and environmental factors, marketing difficulties, isolation and remoteness, poor local resources, a small and dispersed population, high involvement of outsiders, kinship networks,

social reciprocity and lack of competition. These problems are worse in the Pacific Islands because of the distances involved, the poorly developed infrastructure and the social systems. The lack of infrastructure and the level of underdevelopment outside the main towns are much more severe than in Southeast Asia (Fisk 1995:230). For instance, despite the attempts to modernise and provide the people's basic needs, the small, poor and scattered populations have made communication and shipping two of the biggest hindrances to economic development in rural areas (Crocombe 1976:4).

In addition, the local elites have dominated the development initiatives that have been set up to promote the interests of the targeted rural dwellers. The requirements for capital, skills and knowledge and business acumen are lacking in rural areas because of the use of noncash economic systems. Moreover, rural development initiatives have also disrupted the social and political systems because they have allowed the people involved to forge new circles of influence, which rival the customary arrangements.

### **2.3.2 Dominant role of government**

Most rural development initiatives in the Pacific Islands have been formulated and implemented by the governments often with external funding (see Section 2.3.4). The outcome has been the involvement of government in all types of activities, some of which are normally the designated domain of the private sector. However, the increased involvement of governments in many of these development activities undermines the participation of the private sector, which is known to be more efficient in delivering these goods and services (ADB 1996:iii). Consequently, as is seen in most of the countries, the government has been the main employer, with direct consequences on its size (Table 2.2).

Government-led rural development initiatives have been largely top-down and often poorly thought out (Ravuvu 1988b:75; Leweniqilla 1999:7). These initiatives have been based on the development approaches that have guided government policy at the time and the assumptions that government officials make. Unlike private enterprises, which usually conduct thorough background checks because of the risks involved in setting up an

operation, government agencies are never as strongly threatened, as they are often influenced by the need to provide welfare services (Carleton 1983; Evening 1983). However, these services have to be economical and sustainable to be of use to people. Preferably, governments should concentrate on providing the basis on which the private sector can perform marketing and processing and offer other support services.

**Table 2.2 The size of government in some Pacific Islands in 1996.**

Country	Public expenditures as a share of national income	Government employees as a share of nonagricultural employment	Government employees per hundred inhabitants
Fiji	27	49	6.0
Kiribati	89	35	4.7
Marshall Islands	99	25	6.9
Papua New Guinea	32	36	2.0
Solomon Islands	53	43	4.0
Tonga	49	48	5.1
Vanuatu	50	32	3.0
Samoa	56	42	2.4

**Source:** Adapted from ADB, 1996. Strategy for the Pacific: policies and programs for sustainable growth, [http://www.adb.org/work\\_strategy/strategy-Pacific/default.asp](http://www.adb.org/work_strategy/strategy-Pacific/default.asp).

Although government's rural development initiatives have often been inappropriate in design there has been some attempt to promote appropriateness and applicability. This is why the Pacific Way is such a notable feature of rural development.

### 2.3.3 Emphasis on the Pacific Way

Development projects in the Pacific Islands are still externally driven and formulated by outsiders. Even the work of Non Government Organisations (NGOs) still results in local people being led into projects that are pursued because of externally driven initiatives, the availability of funding or some international agreement. Alternative approaches to development are therefore still administered in a top-down fashion that gives little opportunity for local organisations to participate meaningfully in decision making.

The concept of the Pacific Way reflects the growing regional identity in the Pacific. It emphasises the needs of the rural majority and the values of self-reliance founded on local culture (Tupouniua *et al.* 1975). The Pacific Way reflects the concern for ecologically sustainable development and

contributes a valuable Pacific Island perspective to the development debate (Burt and Clerk 1997:7). It is a bottom-up development approach, which empowers people to take control of their own future and to build upon their own cultural resources (1997:8).

The Pacific Way emphasises the pursuit of economic development that preserves people's traditions and customs. The intention is that economic development should not disrupt people's sociocultural traditions such as communal land tenure, kin-based systems of social organisation and leadership and systems of reciprocity and redistribution that provide security in Pacific Island societies (Seniloli 1992:208, Schoeffel 1996:1). Unfortunately, these features, which also provide a sense of identity and self-worth, have been considered problems that hinder people's economic activities. For instance, people have been unwilling to take up full-time commercial activities because there have been other part-time and less demanding means of obtaining cash. Furthermore, 'a "market mentality" such as that widely found among the Asian populations with centuries of exposure to commercial trading and economic specialisation is not yet widespread among the Pacific Island communities' (Schoeffel 1996:4).

The incorporation of rural development into the sociocultural context in the Pacific Islands has also been a big challenge because of the differences that exist between the traditional and contemporary systems (Watters 1969; Nayacakalou 1978; Ravuvu 1983, 1988a, 1988b; Qalo 1997). Although Pacific Islanders live in sophisticated social environments, are healthy and have good relaxed lifestyles, they are often identified as amongst the poorest in the world in relation to conventional indicators such as GDP and per capita income. According to Fisk's (1970:1) work in Fiji, which typifies the situation throughout the Pacific Islands, this is a misconception; he described the conditions in Fijian villages as 'subsistence affluence'. Moreover, communal projects have been promoted to maximise the involvement of people as well as allow as many as possible to receive the benefits of rural development activities. In these instances, communal expectations and traditions such as reciprocal exchanges have affected the development activities. In addition, people are



torn on whether to emphasise traditional leadership or agree to be led by contemporary experts.

Pacific Islanders also have clearly defined and formally recognised resource ownership rights that are being used in contemporary societies. In Papua New Guinea, the Solomon Islands and Vanuatu, customary ownership groups own the land and sea resources and can exert significant control over development decisions relating to these resources. In Samoa, an AusAID funded project has established Village Fisheries Management Plans to organise the sustainable use of fisheries resources in areas belonging to villagers (King and Faasili 1997). In Tonga, coastal communities have undertaken coral reef rehabilitation work (Chesher 1995). Similar resource management practices have been undertaken in the Cook Islands, Kiribati and Tuvalu. These initiatives exemplify the attempts made throughout the region to incorporate contemporary development in a traditional context. However, the people involved also need to extend such initiatives to improve their living conditions, meet the cost of development and involve people in all levels of decision-making. Nothing less will allow for a rural development that is determined by the people and tailor made to suit the conditions people live in.

#### **2.3.4 Challenges of the Pacific Paradox and aid dependency**

The Pacific Paradox refers to the unfavourable economic growth rates experienced in the Pacific Islands in spite of high investment ratios and foreign aid (Siwatibau 1997:37). As mentioned earlier, despite gross investment rate of over 27 per cent between 1980 and 1992, the average GDP growth was only around 2 per cent. At the same time, development assistance worth 27 per cent of the GDP was the major source of funding (ABD 1996:iii). Approximately 75 per cent of these aid came from bilateral sources with the European Union (EU) providing an additional 15 per cent.

The paradox has resulted in a cycle whereby aid supports development, which triggers unexpected changes in social and natural systems and eventually requires further aid (Carew-Reid 1989:115). Aid to the Pacific region, is now perceived as unsuccessful in facilitating satisfactory growth

performance (ABD 1996). It is important however to remember that much of the aid had gone into supporting large public sectors rather than growth activities. In the mid 1980s Official Development Assistance (ODA) stood at approximately US\$2,500 million per year (Carew-Reid 1989:113). The 1990 estimate was around A\$1,637 million annually, which was equivalent to A\$256 per capita (Fairbairn 1994:15). Most of the Pacific Islands are aid-dependent (Table 2.3).

The use of development assistance to modernise Pacific Island economies and cultures has concentrated on infrastructure (Fisk 1981:10; Carew-Reid 1989:115; Ratuva 1995:35) and those activities designed to increase production and productivity in rural areas (Gibson 1993:144). The construction of airports, roads, jetties, storage and processing facilities have all been features of rural development paid for through development assistance (see Table 5.2), giving the impression that the continuous flow of aid projects has kept these distorted economies going (Fisk 1995:205).

**Table 2.3 Selected economic indicators in some Pacific Islands, 1996.**

Countries	Population (000)	GDP/Capita 1993 (US\$)	Aid 1987-91 (% of GDP)
Cook Islands	18	3900	28
Fiji	758	2100	5
Kiribati	72	710	57
Marshall Islands	48	1610	81
FSM	100	1550	83
Samoa	160	980	38
Solomon Islands	319	750	21
Tonga	90	1610	20
Tuvalu	9	1400	103
Vanuatu	147	1230	31

Source: Adapted from ADB, 1996. Strategy for the Pacific: policies and programs for sustainable growth, [http://www.adb.org/work\\_strategy/strategy-Pacific/default.asp](http://www.adb.org/work_strategy/strategy-Pacific/default.asp).

This situation is illustrated in the area of environmental management, where the South Pacific Regional Environment Programme (SPREP) has been a major recipient of externally funded projects that have been part of global initiatives. Some of SPREP's current projects include:

- the South Pacific Biodiversity Conservation Programme (SPBCP), funded by the Global Environment Facility (GEF) through the United Nations Development Programme (UNDP) and AusAID
- the Pacific Islands Climate Change Assistance Programme (PICCAP), funded by the Global Environment Facility (GEF) through the UNDP
- Climate Change (CC) Training—CC:TRAIN (to assist the Pacific Islands Governments meet their obligations under Articles 4 and 12 of the UN

Framework Convention on Climate Change), funded by GEF through the UNDP

- Waste Management Education and Awareness funded by the European Union
- Climate Change and Environmental Education and Training funded by AusAID
- Atmospheric and Radiation Measurements in the Tropical Western Pacific, funded by the US Department of Energy
- the Programme of Capacity Building for Sustainable Development in the South Pacific: Building on the National Environment Management Strategies (Capacity 21), funded partially by the UNDP
- the Environmental Clearing House funded by New Zealand.

In most of these initiatives, the governments and communities in the region have been enticed to participate because of the money and assistance available through funded programmes.

The SPBCP for example, is a US\$10 million five-year project to set up viable and locally managed conservation areas within SPBCP's 14 member countries. By August 1997, a total of 17 conservation areas had been set up in 11 of the member countries. Although the concept has been useful to the communities involved, the people have been grappling with the concept of permanent conservation areas, which has resulted in internal conflicts within the communities. In some cases, the people agreed to be part of the project only to exploit the resources later (SPREP 1998). In other cases, people have reneged on their earlier positions after disagreements with the way the activities of the conservation areas have been organised. The project has shown the difficulties of conservation amongst people who are living a semisubsistence existence and not committed to the effort. Moreover, the experience might well be repeated in some of the other externally driven projects operated by SPREP as well as other development organisations.

In 1991, the World Bank raised the concern that despite the high levels of aid provided to the countries in the region, the majority had recorded little or no growth in GDP per capita over the previous decade. Compared to the rates from Small Island Developing States (SIDS) in the Caribbean (five per cent) and Maldives and Mauritius (six per cent), the South Pacific

countries rate of 0.6 per cent was too low (Wiseman 1993:23; Siwatibau 1997:37). This situation suggested either the wasteful use of development assistance in the Pacific Islands or the insurmountable problems of development that hinder the process in the region. The recent cutbacks in the offers of development assistance and the changes in the forms of assistance are expected to pose serious hardship to those countries that have become dependent on foreign aid. The situation highlights the importance of living within one's means and the associated risks involved when this is not the case.

A number of measures, including improved planning and reporting procedures, have been taken to improve aid utilisation in the region. For instance, the South Pacific Forum in 1991 resolved to ensure that aid fostered greater cooperation, coordination and policy dialogue. Effort has also been made to streamline the region's rural development priorities. This strategy aimed at determining the programmes to be pursued at the regional level and the priorities these should be given; and also to establish how, when and who should develop the proposed activities. For instance, in recent years, an overabundance of ODA has resulted in the rapid growth of the public service in many countries. As a result, aid has directed human talent away from the private sector to government positions.

Aid donors to the Pacific Islands have expressed a strong desire to increase the proportion of their assistance channelled to private sector development (McMaster 1993:275). This change in emphasis is based on the assumption that the development of the private sector is more likely to stimulate economic growth and reduce the failure of government projects. It has also been argued that the channelling of aid to government has resulted in the use of assistance to fund capital investment projects determined by government, with minimal contribution from the private sector and the intended stakeholders for whom the projects are designed and formulated. There is also a need to discard the attitude that people in rural areas are victims of the process who deserve to be assisted. This belief has been used by developing countries to justify their inaction unless

they are prompted by overseas support. Such dependency attitudes hinder the drive for self-determined rural development that is emphasised today.

### **2.3.5 Importance of people's participation**

Poor performances of development projects involving local communities in the Pacific Islands have raised the need to understand the reasons for the failures. In the last 50 years, many attempts to encourage people to take control of community-based development have failed because of inappropriate approaches (Chung 1988; Ravuvu 1988a). Prominent amongst the failures have been the attempts to achieve results through the infusion of external management, funds and technology, controlled from outside the communities (Narayan 1995:1). On the other hand, however, it is critical that the people are well-prepared for the activities they are being encouraged to undertake. Community groups, for instance, must have set rules that define membership requirements, responsibilities, benefits, and accountability. In addition, the group should determine how the violation of rules is dealt with and how disputes are resolved (Narayan 1995:17). Moreover, attention needs to be given to details such as: 'the kinds of tasks to be performed, the time factor, the level and rate of returns relative to time and labour input, the risk factor, the propensity to save to replace capital investments, financial control and the perseverance for the desired output, excellence and qualifications' (Qalo 1997:73). All these skills are important because at the moment, people are involved in development activities they do not fully understand.

The emphasis on community-based development is founded on the pretext that people who live together in communities and collectively own the resources can work amicably. However, experience has shown this to be an oversimplification of the situation and a misconception. People in villages are divided into groups that need to be unified for such a purpose. This is why leadership is such an important requirement. The people also need to be motivated and committed to the development work. In most Pacific Island communities, this requires dialogue, the formulation of short-term objectives, which suit the way people perceive desirable change, and the understanding of people's preference for immediate results.

For example, the SPBCP concept acknowledges that conservation in the Pacific can be successful only if the needs of the local resource owners are accommodated. Therefore, for conservation to work, people need to see conservation activities as viable economic alternatives. Furthermore, the communities must not be deprived of their control of the resources targeted for conservation. The challenges under the SPBC are to:

- find new and better methods of generating benefits within the communities while maintaining resource use at sustainable levels and protecting biodiversity and,
- empower communities to plan, manage and monitor the use of their own resources.

## **2.4 Conclusion**

The discussion in this chapter outlines the notable features of the development theories and the outcome of rural development in the Pacific Islands. The countries are using conventional development theories to plan their development while the results demonstrate the types of concern that are raised in the debate. The current trend is one whereby a strategy is in fashion for a while before another replaces it (Crocombe 1976:2). The different theories propose to address different aspects of rural development. The fact that there are still issues not adequately addressed through any of the theories highlights the work that remains to be done to allow the formulation and implementation of more successful rural development projects in the future. Some of these unresolved issues are discussed here.

First, there is still a big gap between theory and practice. For instance, development theories have promoted equity and the participation of local communities within an economic system that encourages efficiency in the accumulation of wealth. It is ironic that we strive for equitable distribution of resources within an economic system that encourages the right of people to accumulate their personal surplus and to enjoy this in whatever way they want. Furthermore, we have not found a way of convincing people who are living comfortably to willingly address the problems involving the disadvantaged groups. Putting the last first is hard, as it means that 'those

who are powerful have to step down, sit, listen, and learn from and empower those who are weak and last' (Chambers 1997:2).

Second, people in developing countries continue to aspire to living conditions like those in developed Western countries. Chambers summed up the situation well: 'Since the confidence and confusion of the powerful seem sustained in the face of such errors, the questions are how much they and other development professionals are still wrong, and may continue to be wrong, while sure they are right (1997:17).' This is a problem because the targeted level of development developing countries are vying to achieve are unlikely to be realised and certainly can never be sustainable in environmental terms.

Third, there has been too much emphasis on mainstream development approaches which are then imposed unilaterally. These strategies and approaches have not been adequately tested. The diverse sociocultural and economic conditions that exist in different areas cannot allow the unilateral use of the same development initiatives. Grand theories should be 'rejected as inappropriate to the analysis of diversity and change—which makes development a necessarily multilinear process subject to divergent constraints and opportunities according to the complex interplay of both objective and subjective factors' (Brohman 1996:325).

Fourth, rural development theories have simplified and distorted the rich and diversified experiences of developing countries, reducing development to a few universally valid factors and organising principles. Rural development is complex and cannot be achieved by addressing only those factors that the theories identify as important. Moreover, the context of development is constantly changing in scale, time and among societies, creating both new opportunities and obstacles for consideration. In addition, development cannot be artificially broken into compartments to fit humanity's areas of specialisation, research and theoretical framework. Chambers (1997:19) explains that the lesson from all this is 'what appears to be hard scientific facts and figures can be selected according to the climate of opinion and to political consideration; that combinations of scientific knowledge and common sense can be wrong; and that in matters

as complex and logically and individually variable as the relations between human physiology, deprivation, famine, food and livelihoods, there is much to doubt and probably much still to learn'.

Fifth, the current development approaches have inherent shortcomings that make them inadequate in developing countries. A new approach is needed and should incorporate the good aspects of the theories that have been discussed here. People now understand what they need to do and the problems they need to address to ensure that the approaches they adopt are appropriate, relevant and practicable. Humanity cannot settle for anything less, as the alternatives are not going to work in the interest of developing communities.

Sixth, greater familiarity with local experiences will provide more useful and applicable concepts, more appropriate methods and more realistic expectations of the people involved in rural development. 'With processes as complex and dynamic as the interaction of people and environments, there may be some underlying principles with some stability, but current realities are diverse. The easiest error is to over-generalise from particular cases and assume uniformity' (Chambers 1997:29). The local stakeholders should be allowed to play a more important role in formulating and implementing rural development projects.

Finally, it is obvious that rural development is more than just economic development. Sociocultural factors affect the accuracy and relevance of most rural development theories and approaches and the outcome of development projects. There is also the need to use development assistance more effectively and ensure that the activities supported through development aid are important to the improvement of living conditions in developing countries. Participatory rural development is now being pursued as a response to the problems and shortcomings of earlier rural development failures. However, there is a need to ensure that the participation is not token and that the people are really involved in deciding what they want to do and how.



### **3. Cultural and institutional context of rural development in Fiji**

#### **3.1 Introduction**

The transition of Fiji's independent subsistence communities to a modern, interdependent economy has been in process since contact was first made with Europeans in 1643. Over these years, Fiji has experienced colonisation, political independence, military coups and a change of status from dominion to republic. The country, however, continues to search for rural development initiatives that will provide the people with the opportunities they require to improve their lifestyles. The rural development experience in Fiji illustrates both the influence of the development approaches in the transformation of the local situation and the problems faced due to the defective approaches. Although the transformation has improved the conditions of life generally it has not solved the problems of the poor in rural areas. Meanwhile, the disparities between the centre and the periphery, and the differences between cultural groups persist. Rural development has benefited only some sections of the population while others lag behind. The investment in rural development has not been as beneficial as anticipated and there is an urgent need to correct this.

This chapter, which provides the background information necessary to understand rural development in Fiji, is divided into two parts. The first part is a brief overview of the physical and the socioeconomic situation. This explains the context and how this has influenced rural development projects, their outcomes and some of the problems faced. The second part of the chapter reviews rural development issues. It discusses widely held perceptions and realities of rural development, the types of projects that are undertaken and the objectives that are pursued.

## 3.2 The setting

### 3.2.1 Geography

Fiji is an archipelagic state in the tropical South Pacific. It lies midway between Tonga to the east, Wallis and Futuna and Samoa to the northwest, Vanuatu to the west, New Caledonia to the southwest and Tuvalu to the north (Figure 3.1). Fiji comprises approximately 320 small islands strewn between latitudes 15 degrees and 22 degrees south and between longitudes 177 degrees west and 175 degrees east.

Fiji is a small country with a total land area of only 18,272 square kilometres. The two largest islands, Viti Levu (10,388 square kilometres) and Vanua Levu (5,532 square kilometres), constitute 87 per cent of the total area and are the economic mainstays of the country (Figure 3.2). The rest of the islands are small. However, their scattered location provides Fiji with a combined sea area of 1,416,058 square kilometres, 77 times as large as its land area. While the sea area in Fiji is not as productive as that of some other parts of the Pacific Ocean, it offers considerable resources and has potential for future development in fisheries, mining, energy and tourism. For a significant proportion of the people, particularly those on small islands and in coastal communities, the sea and its resources are their most important assets.

Fiji has a tropical oceanic climate controlled by the southeast trade winds between April and October and a cyclone season between November and March. There is no marked seasonal variation in temperature except for the division of the main islands into the windward (southeast) and leeward (northern and western) sides. The bigger islands are mountainous and rugged in their interior. The main river systems in Viti Levu include the Rewa, Navua, Sigatoka, Nadi and Ba rivers and in Vanua Levu, the Dreketi and Labasa rivers. Fiji is prone to extreme natural disasters such as earthquakes, floods, storm surges and landslides. An average of 10 to 15 cyclones per decade hit Fiji, of which two to four cause severe destruction (Chandra 1998:4).

About 97 islands are inhabited, with the total population in 1996 being 775,077. The two main islands of Viti Levu (76 per cent) and Vanua Levu (18 per cent) contain 94 per cent of the population while the remainder is

Figure 3.1 The Pacific Islands

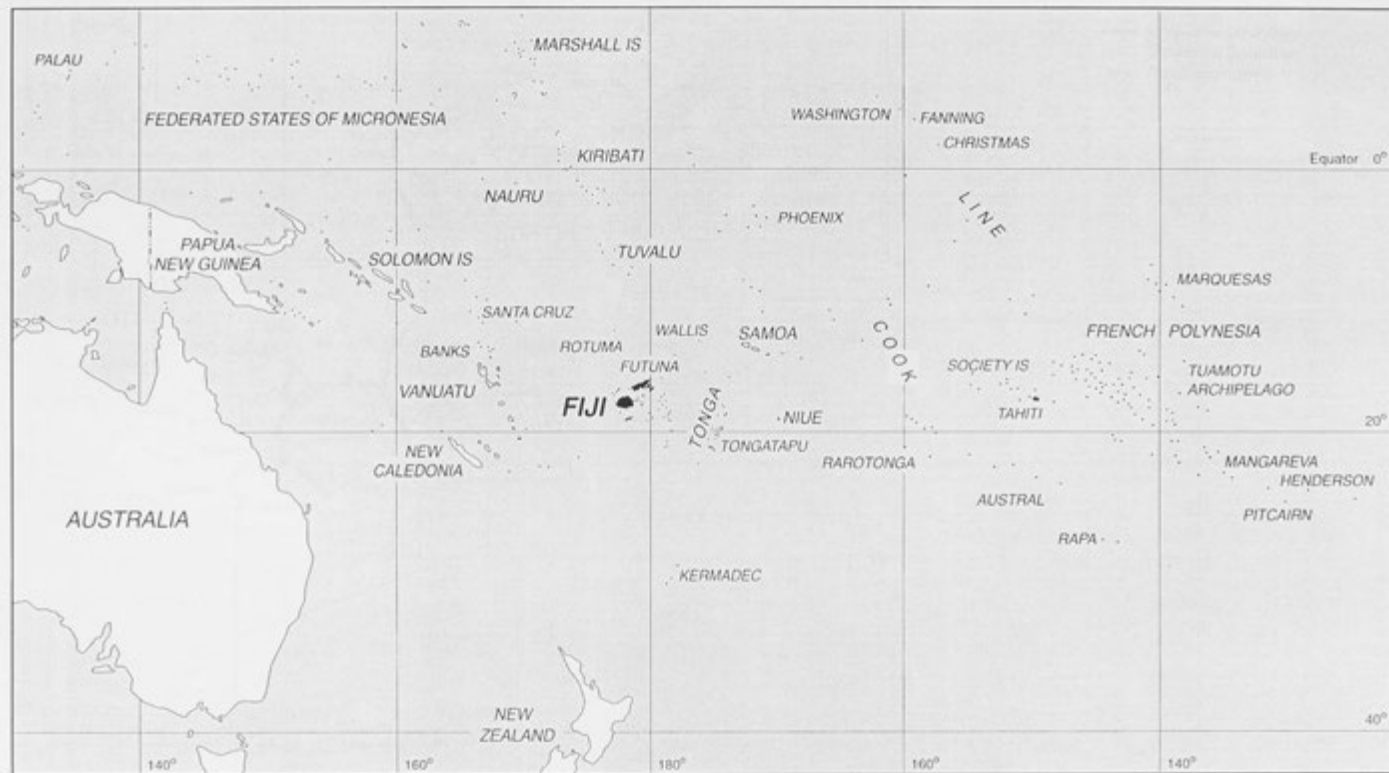
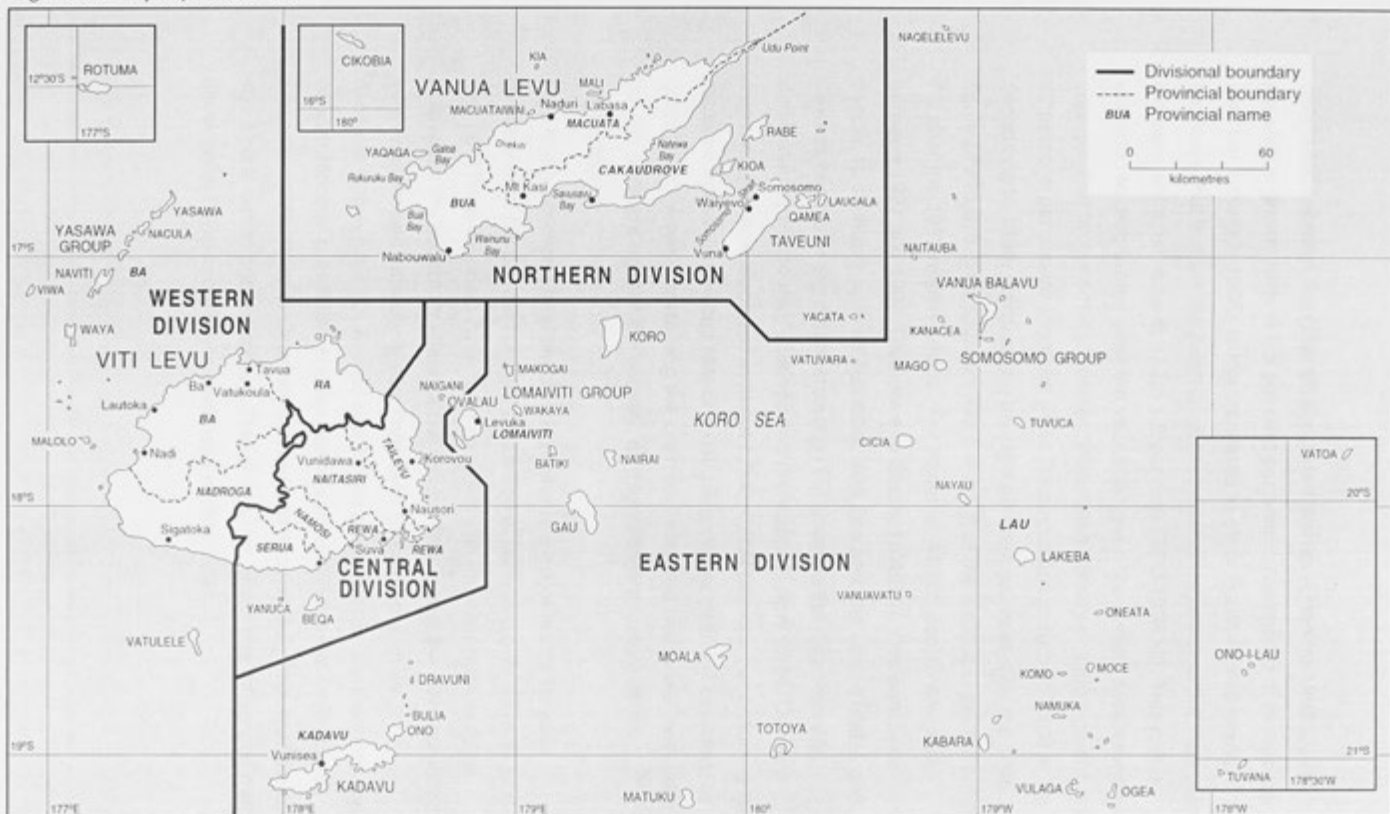


Figure 3.2 Fiji: spatial units



distributed between the other 95 populated islands (Chandra 1998:2). The population growth rate, at 0.8 per cent per annum (compared to the two per cent per annum in 1996), is low compared to other South Pacific Island countries, but is more the function of international migration rather than natural increase which remains at a high 1.9 per cent (SPC 1999:xii). This rate is expected to drop further after the year 2000 given the current socioeconomic changes that favour smaller families. Population density in 1996 was around 42 persons per square kilometre while the population grew by 57,208 in the decade up to 1996, representing an eight per cent increase over the 1986 figure of 715,375. This situation was the result of the exodus of people out of Fiji after the 1987 military coups. For instance, 44,000 people emigrated between 1987 and 1990 (Chandra and Chetty 1998:70). This outflow of people, to countries such as Australia, New Zealand, the United States and Canada has had a significant impact on Fiji because the migration was dominated by the country's trained and professional work force. Outward migration has now stabilised at about 5,000–6,000 persons per annum, a huge increase from the pre-coup rate of 2,640 persons per year. Fiji continues to grapple with ways of correcting the drain on its trained manpower resources but the odds are against the country, as migration is a feature of the contemporary global economy.

Fiji's highly scattered rural population presents a major hurdle for rural development. Six per cent of Fiji's population is scattered over 95 of its 97 islands. These Islanders have to be provided with the opportunities to be involved in the economic affairs of the nation. This is why the development of infrastructure and capacity is very important. Strategies such as decentralisation have not worked well for the same reason. Furthermore, the concentration of population and economic activities in the two main islands presents a dichotomy of an urban-centred and economically important sector and a rural-based poor periphery. This dichotomy, which has influenced rural development in the country, is discussed in detail later.

## 3.2.2 History

### 3.2.2.1 Earlier years

At the time of European contact, indigenous Fijian communities were reliant on locally varied subsistence systems in which the bulk of the vegetable foods were cultivated or foraged from the surrounding forests (Golson 1972:17). Introduced domestic animals such as pigs, chickens and dogs and wild terrestrial vertebrates such as lizards, rats and snakes provided the animal protein. Fishing for reef and inshore species using traps, nets, spears and poison was also widely practised (Veitayaki 1990:50–5).

Frazer (1973:78–9), identified some of the notable features of the traditional Fijian village and their subsequent transition (Table 3.1). For instance, the major goals were markedly different between pre 1643 and the 1960s. External communication, health services, education and European goods have only been a feature in the villages since the 1960s. Likewise, commercial crops, wages and commercial activities were just being established in villages in the 1960s. In the same way, decision-making was transferred from hereditary chiefs and community councils in the pre 1643 and post 1874 periods to community councils, government officials and magistrates. The role of hereditary chiefs declined while individuals and groups have taken on more independent roles. Fijian villages are now unlimited in size and are influenced by their proximity to urban areas. This was different from the pre 1643 and post 1874 periods when the main size regulators were the minimum viable defence force or the maximum number that the food supply would provide for. Furthermore, villagers were attracted to urban life, opportunities for higher incomes and a desire for higher status. Nevertheless, the village is still the basis of indigenous Fijian social and economic organisation (Overton 1993:99).

The arrival of the explorers, missionaries, whalers and traders has contributed to contemporary Fiji (Brookfield *et al.* 1978:1,7; Narayan 1984:15). For example, although traditional agriculture was well established at the time of European contact, the introduction of metal tools and seeds of various types of introduced plantation crops such as sugar cane, coconuts, cotton and tobacco

**Table 3.1 Attributes of indigenous Fijian villages in four time periods.**

Attribute	Precontact (pre 1643)	Contact 1643-1874	Post-cession (post 1874)	Village of the 1960s
Major goals	Survival in war Food and shelter Preserve social unit Protect lands	Secure food and shelter Preserve social unit	Food and shelter Preserve social unit Retain lands European goods	Continue social unit (diminishing) Personal freedom and status European goods and foods Capital goods (ploughs) Health services, education Links with urban areas
Economic base	Swidden agriculture, hunting, fishing, gathering Static stone age technology Minimal specialisation	Swidden agriculture, hunting, fishing, gathering Stone age technology Introduction of metal tools, trade in natural resources and plantation crops	Swidden agriculture Hunting, fishing, gathering Contract labour wages Tax on garden surpluses Minimal specialisation	Swidden agriculture (declining) Limited hunting, fishing, gathering Commercial crops Wages Entrepreneurial activities Incipient specialisation
Location regulators	Defence Access to food Political groupings	Defence Access to food	Access to food Administration Health	Health Communications Commercial opportunities, access to food Education and social services Ownership of land
Size regulators	Minimum viable defense force Food supply	Minimum viable defense force Food supply Political instability and social upheaval	Minimum viable production group Food supply	Virtually no minimum Maximum which total local economy would support
Population regulators	Balance of high death and birth rate Battle casualties Migration to safety	Balance of high death and births Migration to safety	Balance of low birth rate and high death rate Migration to work	Balance of high birth rate and low death rate Migration to work (largely to urban areas) Independent farming
Decision making	Hereditary chiefs and community councils	Hereditary chiefs and community councils	Hereditary chiefs and community councils Appointed chiefs Government officials	Hereditary chiefs (declining) Community councils Government officials and magistrates Individuals and groups
Agency enforcing decisions	Life or death power of chief Community attitudes	Life or death power of chiefs Community attitudes Government officials	Community attitudes Native police (jail & fines)	Community attitudes (declining) Police and Fijian Provincial constables (jails & fines)
Centripetal forces	Safety, Leadership, Tradition, Group organisation Reciprocal assistance	Safety, chiefly leadership, confederation of chiefdoms Group organisation Reciprocal assistance	Leadership Security Tradition Group organisation Reciprocal assistance	Tradition Security (diminishing) Sense of identification Limited reciprocal assistance Official restraints on outmigration
Centrifugal forces	Nil	Desire for cash income Settlement of migrant labourers	Desire for cash income, labour contracts, freedom from community obligations and restrictions	Desire for freedom from community restrictions, higher status, education Attraction to urban life Opportunities for higher incomes

**Source:** Adapted from Frazer, R., 1973. 'The Fijian village and the independent farmer', in H.C. Brookfield (ed.), *The Pacific in Transition: geographical perspective on adaptation and change*, Edward Arnold, London:78-9.

made a large impact on the surrounding environment (Farrell 1972:38). In addition, the sandalwood and bêche-de-mer trades were associated with deforestation, the depletion of bêche-de-mer stocks and permanent settlement (Ward 1972:102; Narayan 1984:16).

European settlers also acquired large tracts of Fijian land but could not rely upon Fijian labourers, who were content with their subsistence lifestyle and were reluctant to be involved in the rigours of plantation work. This led to the importation of labour from other Pacific Islands and India. Also by the middle of the 1800s, there was already a small European population in Levuka trading in sandalwood, coconut oil and turtle shells.

Land was traditionally held under customary ownership by a clan or group and indigenous Fijians had not previously attributed a monetary value to land nor had any idea that land could be bought and sold for personal gain (Farrell 1972:38). However, for a short while after European settlement, land was a commodity that could be individually owned and sold. Shifting cultivation, which had provided the people with food for consumption and social obligations, was replaced by permanent farming practices that marked the beginning of the modernisation process. By 1850, commercial activity had changed from collecting products to trading commodities and well-organised plantation agriculture. These organised farming operations heralded the commencement of the labour trade. In 1864, the first Melanesian labourers were shipped to Fiji. In subsequent years, some 20,000, Ni Vanuatus, I Kiribati, Tuvaluans, Tokelau and Solomon Islanders were brought to Fiji (Narayan 1984:23). This labour trade was based on the principle that a local person could not work well because of custom and kin ties and therefore had to be taken elsewhere to be productive. This was a dreadful way of treating people who had never worked this way before. However, the practice showed the degree and extent to which the transformation of the subsistence lifestyle under modernisation was taking shape.

### **3.2.2.2 Crown colony**

Fiji became a crown colony in 1874, after Ratu Seru Cakobau convinced the British Government of the merits of the arrangement. The conditions in Fiji today reflect British colonial policies. For instance, prior to 1874, indigenous



Fijian landowners sold land to the Europeans (Farrell 1972:58; Brookfield *et al.* 1978:29; Ward 1998:92). The British Government moved quickly to prevent the wholesale alienation of land. It set up a Lands Commission to settle land purchase claims and prohibited the further alienation of native land.

The three main types of land in Fiji (Native, State, and Freehold) are now relatively fixed, as the sale of native land had been banned since 1908 (Ward 1998:92). Native land is land owned by indigenous Fijian social groups. It cannot be sold but may be leased under prescribed conditions. State land is owned by the Government, while Freehold land is privately owned land (purchased prior to 1908), which can be bought and sold by the owners.

Native land constitutes approximately 82 per cent of all the land and is surveyed, registered and administered on behalf of the indigenous Fijian owners by the Native Land Trust Board. The State land (9.4 per cent) and Freehold land (8.2 per cent) comprise the remaining estimated 17.6 per cent of the land. Although both the reserved and unreserved land can be leased, the reserved land leases are reserved for only indigenous Fijians while people of other races can lease only the unreserved land. The reserved land comprises over a third of native land but most of this is marginal for agriculture. Many of the land leases have expired since 1997 and this continues to be a contentious issue, as land has important and sensitive social, economic and political implications for Fiji (Batibasaga *et al.* 1999:101–2). 'The form of tenure under which land is owned and made available for use is a major determinant of how and by whom it is used, and the type of settlement people create on it' (Ward 1998:92).

Similar ownership arrangements apply to the customary fishing areas traditionally owned by indigenous Fijian groups. The use of customary fishing grounds by outsiders is permitted provided access conditions are met. As with the land, questions have been raised regarding the effect of the customary tenure system on economic development. Some people believe that the system hinders economic progress, as the indigenous owners of the resources are uncertain about the merits of proposed development projects in their areas. According to these people, the procedure for obtaining the blessing of the resource owners is time-consuming and complicated and at times

associated with outrageous compensation claims. In addition, these critics are worried that important national projects can only occur at the discretion of local communities, because of their ownership of land and the adjacent fishing grounds.

However, most of the traditional landowners are adamant that this primarily customary tenure system is the best legacy of the colonial era. They argue that the scramble for land prior to 1874 and the existence of displaced people today resulted from uncontrolled land sales that will be repeated if the current system is abandoned. The existing tenure system also enables all people to be informed of the impacts of development. Recently, the tenure system has been used to promote the involvement of local communities in the management and protection of their environmental resources. Since the ownership of these resources rests with local communities, it is in their best interest to commit themselves to conserve their resources and ensure that their children are afforded the same opportunity.

The problem of labour for the sugar plantations was solved through the recruitment of indentured labour from India. Between 1879 and 1916, 62,837 Indian indentured labourers were shipped to Fiji. Approximately 60 cent of these labourers stayed on in Fiji after their contracts expired and many subsequently became successful entrepreneurs. The indenture system caused the rivalry between the indigenous Fijians and this large migrant group. In fact, racial conflict has featured in domestic affairs ever since (Spate 1959:5; Fisk 1970:44–5; Nayacakalou 1978:40; Lasaqa 1984:153; Lal 1999). The coups in 1987 and in May 2000 were related to this predicament

### **3.2.2.3 Pre independence**

After the 1960s, indigenous Fijians had many more alternatives than did their precontact ancestors. They could choose where and how they lived, how they allocated their time and the material possessions they owned. For example, indigenous Fijians could pursue their goals outside their villages under the system of *galala* or independent farmers that was an alternative to the village system (Watters 1969:192; Scarr 1980:43). In their own villages however, indigenous Fijians live outside the commercial and formal sectors and are involved only haphazardly in the formal economic activities (Spate 1959:9).

Nevertheless, they are still influenced and affected by external economic pressures and aspire to have a Western European lifestyle.

Paradoxically, most of the indigenous Fijians who opted to leave their villages for the independent farms claimed that their communal tasks left them no time to undertake the commercial activities that were required for earning a cash income (Watters 1969:192–203). These independent farmers often had more business acumen, energy, and strength of character than their kin in the villages (Frazer 1973:89). These *galala* settlers were the first indigenous Fijians to understand the conflict between traditional village life and economic activity. These people knew they had to move away from the villages to realise their economic and social aspirations. This option was most attractive to indigenous Fijians who had already experienced life elsewhere. This interesting social development illustrated the inadequacy of the social arrangements (such as the decision to keep indigenous Fijians in the villages) that were introduced by the colonial government to protect the indigenous people and safeguard their culture (Chandra and Gunasekera undated:43; Scarr 1980:11). A number of these *galala* settlers became entrepreneurs, while most failed because of their poor understanding of commercial systems, new technology, and use of systems of spatial linkages in a traditional way (Couper 1973:229). These problems of rural development are still applicable in contemporary Fiji.

#### **3.2.2.4 Post independence**

Fiji became independent in 1970, after nearly 100 years as a British colony. Independence was attained peacefully after an agreement between the main races and political parties and the British Government allowed the establishment of a bicameral form of government. The elected House of Representatives consisted of 52 members—27 communal seats (12 indigenous Fijians, 12 Indo Fijians and 3 General Electors) and 25 national seats for which voters could choose across ethnic lines (10 indigenous Fijians, 10 Indo Fijians and 5 General Electors). The Senate had 22 appointed members: eight were chosen by the Great Council of Chiefs, which is exclusively made up by indigenous Fijians, seven were chosen by the Prime Minister; six were chosen

by the Leader of the Opposition; and one was chosen by the Rotuman Council.

Up to the time of the General Election of 1987, the indigenous Fijian-dominated multiracial Alliance Party governed Fiji. After the election that year, a coalition of the two main Indo Fijian dominated parties, the National Federation Party (NFP) and the Fiji Labour Party (FLP) came to power. Although the new government had promised better government, it was resented by indigenous Fijians, even though a good number of them had voted for it. On 14 May, 1987, Lieutenant Colonel Sitiveni Rabuka staged the first of his military coups and stated publicly that the protection of indigenous Fijian interests was the reason why he removed the democratically elected government. In September of the same year, Rabuka staged his second coup, claiming that the objectives to safeguard the interests of the indigenous Fijians had been compromised.

The 1990 Constitution that replaced the one adopted at Independence was a direct outcome of the coups. The Constitution reflected what Fijians believed to be the remedy for their political and developmental predicament of retaining governing power (Lal 1997:75). Government policies were based on affirmative action (positive discrimination) aimed at improving the position of indigenous Fijians and ultimately their control of government (Chandra and Gunasekera undated:43). Parliamentary elections were contested along communal (racial) lines: 37 seats for Fijians, 27 for Indians, five for the General Voters and one for Rotumans. The Prime Minister was to be a Fijian and the President an appointee of the Great Council of Chiefs. Other special forms of assistance were offered to Fijians. In education, indigenous Fijians and Rotumans were to receive 50 per cent of all the scholarships and were entitled to the awards with lower grades. In the area of business, financial assistance was offered by government-owned financial institutions. The result was that indigenous Fijians were argued to have gained more under the 1990 Constitution than during the 17 years under the racially balanced 1970 Constitution (Fisk 1995:260). However, the situation was not acceptable to the international community because it was discriminatory and Fiji was pressured to make amends.

The debate on the strengths and weaknesses of this affirmative policy has been lively but inconclusive and it influenced the rural development initiatives at that time. The supporters of the policy argued that it was consistent with the contemporary objectives of making development equitable. This policy, these people argued, gave people in the rural areas the opportunity to improve their living conditions or at least provide their basic needs. On the other hand, the opponents of the policy were adamant that equity could not be addressed by discriminating against more worthy recipients because they were not members of certain racial groups. In any case, these people questioned the reasons why race should determine which group of poor was more needy. The critics argued that a system based on merit was important if the resources of the country were to be well utilised. In addition, these people were unwavering in their belief that the affirmative policies would lower standards and restrict people's contribution to the development of the country. This group also blamed the high level of emigration from Fiji on this policy, which compelled people to look outside the country for their children's future.

In 1995, an independent Commission reviewed the 1990 Constitution to map a path that was acceptable to all people in the country. The Fiji Constitution Review Commission sought the participation of local communities on how they felt Fiji should be governed. Reconciliation and a workable compromise were achieved in 1997 and Fiji held its first election under its new Constitution in May, 1999. Subsequently, Fiji was readmitted into the Commonwealth and in 1999 appointed its first Indo Fijian Prime Minister. For a time after the election, it seemed that Fiji was moving 'away from the cul de sac of communal politics and ethnic compartmentalisation' (Lal 1997:76). However, the marches organised by the indigenous Fijian groups in 2000 and the take over of government in May have shown that this rivalry is still important in terms of national affairs.

### **3.2.3 Economy**

People in Fiji live between subsistence and a modern economy. The subsistence and informal economy is based in indigenous Fijian villages where community decision-making, resource allocation and management are founded on subsistence, with limited technology and a high degree of local

environmental knowledge (Hunnam *et al.* 1996:49). The modern economy, on the other hand, is based on a number of economic activities that are part of the formal sector, largely based in towns and on the main islands.

By the late 1970s, islands such as those in Eastern Fiji had become part of the national periphery (Brookfield *et al.* 1977, 1978, 1979). The traditional system in these islands had been replaced by a nationwide trading system where all the connections are with Suva. Although the island communities produce much of their own food, they are also trading centres. These communities are dependent on trade for some of their food, clothing, furniture, building materials, fuel and Western luxuries such as cigarettes. Migration of indigenous Fijian families to the main islands on a permanent basis is also a notable feature. These people return home occasionally but only for short visits, causing an overall decline in population in outer islands.

The carrying capacity of Fiji under a trade-dependent economy is lower than that under a subsistence economy. The new economic system created or exacerbated the dependence of villagers on their migrant relatives, who were expected to send goods and remit funds to their relatives in the villages (Ravuvu 1988b:188). To facilitate modernisation in the outer islands there should be relevant and sustained technical assistance; creation of a wage-employment sector in the production, processing and services sectors; and provision of a marketing system linked to reliable sources of goods including imports. In addition, there should be a transport system that connects all parts of the dependencies to the main centres (Brookfield *et al.* 1978, 1979).

### **3.2.3.1 Village economy**

The village economy is characterised by 'subsistence affluence' rather than the abject poverty that is prevalent in many other developing countries (Fisk 1970:1; Knapman 1987:1). In indigenous Fijian villages, people still depend on their surrounding for most of their sustenance, are predominantly self-sufficient and practise intricate exchange arrangements. Sharing with relatives ensures that the resources are efficiently used and that people look after each other in times of need. Hoarding is neither practical nor necessary because people's basic requirements are supplied through their kin-based networks (Narayan 1984:13). Economic specialisation and the production of durable goods that

were characteristics of Western and Eastern civilizations are restricted because of subsistence, self-sufficiency and the use of simple technology in these societies. *Kerekere*, 'a system of gaining things by begging for them from a member of one's own group' (Capell 1991:95), ensures that surpluses are shared, thereby preventing the accumulation of wealth (Nayacakalou 1978:40; Narayan 1984:13). This social kinship system is the safety net that enables people to meet their needs. Little money is used and communal ownership of property is observed. People use goods such as *tabua* (whales teeth), *yaqona* (*Piper methysticum*), mats and other artifacts and food to obtain and return favours (Nayacakalou 1978:102).

The differences between the Fijian and Western economic systems are marked. Village labour, for instance, includes the entire village population of working age and is determined by the people's physical ability to work. Labour is generalised and therefore flexible, with a high degree of mobility between occupations and between households, between household use and communal use and even between sexes as well as age groups (Nayacakalou 1978:107). Village labour can be mobilised on a series of principles, including the authority of the senior members of the household, or those of the local kin-group, who are senior by virtue of age or sex; or people holding special positions within such groups. 'The bases of authority have efficiency within definite limits; each can be evaluated relative to the others according to seniority and other social considerations and according to the immediate needs of the situation, so that there is some scope of individual choice and decision as to the allocation of labour resources so as to achieve maximum work in all directions' (Nayacakalou 1978:108).

People in villages put in unlimited hours when a situation demands it. At such times, there is no time clocking and the reward is not gauged by the length of time put in by the individuals, but rather by the effort made to complete the tasks. 'The major sanctions which will urge men to keep at work are the considerations of one's reputation as a hard worker, the force of public opinion and a sense of obligation to the other members of the group who are carrying on the work' (Nayacakalou 1978:108). People holding authority are respected and obeyed because they have greater knowledge and experience of the local

context (1978:15). Planning is undertaken only to ensure success and minimise clashes of organised activities. Thus, the use of factors of production in Fijian villages is fundamentally an act of social service, not an economic one in exchange for one's labour, land or equipment. Only skilled and professional labour is paid for because such services are also available to nonrelatives.

The incentive to work in an indigenous Fijian community is based on the principle of reciprocity rather than monetary reward. The financial rewards that may accrue become a secondary consideration in a system where one 'has obligations to one's own group; and one is involved in the obligations of one's group to other groups' (Nayacakalou 1978:119). In such situations, the compulsion to work is related to the knowledge that one day one will require the assistance of others. Public opinion is a powerful sanction for culturally acceptable practices. There is keen competition between groups that use the exchange system and reciprocity to show one's social standing. The system gives indigenous Fijian society its structural strength and provides a safety net for all its members.

Continuous westernisation has resulted in the transformation of village life (Bedford 1988). Subsistence and self-sufficiency was replaced by semi-commercial activities while communal labour and ownership were replaced by paid labour and individually-owned ventures (Ward 1995:222-5). Traditional goods now have monetary value while the need for money in villages has heightened due to the needs for school fees, church and government levies and the purchase of household goods such as building materials, sugar, clothes and cigarettes. Consequently, there are in most indigenous villages today a dual economy with an intricate mixture of traditional reciprocity and the contemporary money-based systems. This dualism featured in the rural development projects involving people in villages.

#### **3.2.4 Infrastructure**

Given Fiji's scattered rural population and varied economic activities, transport is a critical feature of development. The problem of irregular shipping schedules has hindered development in Fiji (Brookfield *et al.* 1979). In some places it is normal for a ship to call only once in a month or less frequently. The lack of proper berthing facilities makes shipping slow and inefficient. The



drastic decline in copra production has aggravated the shipping problem. The long distances travelled and the need to have enough cargo and business on a route to justify a boat trip compounds the problem.

The introduction of roll-on-roll-off vessels has assisted in the development of the areas on their routes but the lack of berthing facilities and interisland trade are still major hindrances elsewhere. To make matters worse, the Government which used to own the largest fleet in the country, has sold its vessels. In 1997, Government introduced a subsidised service to some of the outer islands to address the transport problem but it is unclear whether this has worked and if it has improved the shipping services.

### **3.2.5 Social indicators of development**

According to the Human Development Index (HDI) reported in 1998, Fiji ranked 44<sup>th</sup> out of 175 countries in the world (Government of Fiji 1999:1). This placed Fiji as the best country in the Pacific according to this measure. Fiji also fared well in most of the other development indicators, including access to health services, adult literacy, life expectancy and infant mortality. Clean piped water was available to 70 per cent of Fiji's population. However, only 27 per cent of the rural villages and 40 per cent of settlements enjoyed this facility. Hence, great inequalities still remain between the urban and rural areas.

Rural development initiatives now undertaken in the country represent the various attempts to address these social indicators of development. The emphasis on self-helped community projects illustrate these initiatives.

## **3.3 Rural development in Fiji**

The main objectives of rural development emphasise the:

- creation of the necessary economic and social environment which will stimulate and strengthen rural community development efforts
- provision of an effective institutional framework for consultation, cooperation and involvement at the community level
- coordination of the effort with existing agencies in rural areas at the most appropriate decentralised level
- stimulation of rural communities to seek their own improvement, through the satisfaction of people's needs, through their own effort and resources

- provision of advisory, technical, financial and other material assistance, particularly where economic benefits will result

(Fiji, Central Planning Office 1980: 302; Fiji, Ministry of Rural Development 1987a:1, 1987b:2; Fiji, Ministry of Rural Development and Rural Housing 1992a:3-4, 1992b:9-10, 1994:1, 1995:2-3; Fiji, Department of Rural Development 1996:2).

Fiji's multicultural social structure affects rural development activities. Indigenous Fijians comprise approximately 49 per cent of Fiji's population compared to the 46 per cent for Indo Fijians. The minority groups (namely the Chinese, Europeans, other Pacific Islanders and those of mixed races) constitute the remaining five per cent (Chandra 1998:7). About 60 per cent of the people live in rural settlements along the coasts, riverbanks and valleys. Fiji's urban population resides mainly in 15 urban centres: two cities, eight incorporated towns and five unincorporated towns. All these urban centres, except Levuka, are on Fiji's two main islands. The highest population density is in Rewa (358 persons per square kilometre), where most of the people live in the Lami-Suva-Nausori corridor. Suva, the capital, has over 50 per cent of Fiji's urban population (Chandra 1998:32). Population distribution patterns influence rural development because they affect markets and the provision of infrastructure. The majority of the rural population consists of indigenous Fijians who are scattered in rural communities. It is for these people that most of the rural development initiatives are formulated.

Fiji is divided into four administrative divisions, each of which is headed by a District Commissioner, the leading civil servant in each district. The four divisions, Western, Central, Northern and Eastern, coordinate rural development within their areas (Figure 3.2). The Central and Western Divisions comprise 76 per cent of the total population (Table 3.2). Fijians are more widely dispersed than the Indo Fijians, who are highly concentrated in the three provinces of Ba, Nadroga-Navosa and Macuata. The Northern Division is sparsely populated while the Eastern Division has a high population density because of the small land area.

**Table 3.2 Land area and population of provinces and divisions, 1986.**

Province	Location	Land Area (km <sup>2</sup> )	Population	Density (per km <sup>2</sup> )	% of national land area	% of national population
<b>Central Division.</b>	Viti Levu	4293	260110	61	23	36
Tailevu	Viti Levu	855	44249	52	5	6
Naitasiri	Viti Levu	1666	100227	60	9	14
Rewa	Viti Levu	272	97442	358	1	14
Namosi	Viti Levu	570	4836	8	3	1
Serua	Viti Levu	830	13356	16	5	2
<b>Northern Division</b>	Vanua Levu	6198	129154	21	34	18
Baa	Vanua Levu	1378	13986	10	8	2
Macuata	Vanua Levu	2004	74735	37	11	10
Cakaudrove	Vanua Levu	2816	40433	14	15	6
<b>Western Division</b>	Viti Levu	6360	283349	45	35	40
Ra	Viti Levu	1314	31285	23	7	4
Ba	Viti Levu	2634	197633	75	14	28
Nadroga/Navosa	Viti Levu	2385	54431	23	13	8
<b>Eastern Division</b>	Outlying Is.	1422	42762	30	8	6
Lau	Outlying Is.	487	14203	29	3	2
Lomaviti	Outlying Is.	411	16066	39	2	2
Kadavu	Outlying Is.	478	9805	21	3	1
Rotuma	Outlying Is.	46	2688	58	0	0
<b>Total Fiji</b>		18272	715375	39	100	100

Source: Chandra, R. 1986. 'The distribution of population and its density: total population', in R. Chandra and K. Mason (eds), *An Atlas of Fiji*, Department of Geography, University of the South Pacific, Suva:4.

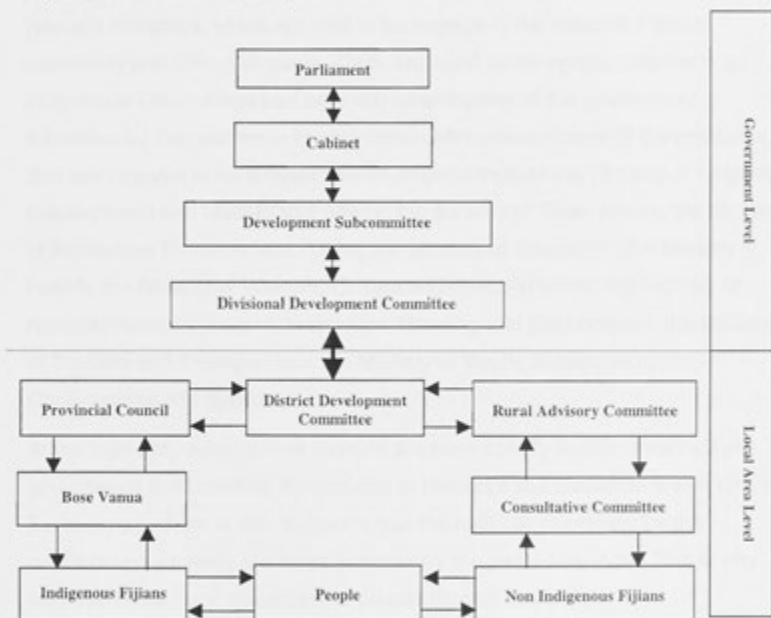
### 3.3.1 Rural Development Administrative Structure

The Rural Development Administrative Structure (Figure 3.3) sets out the communication channels between the Government and the people. This structure coordinates development work at the national level, between urban and rural areas and amongst different racial groupings in different areas. Indigenous Fijians submit their development proposals to their respective *Bose Vanua* (District meeting) which prioritises them and then forwards its recommendations to the Provincial Council. The Council discusses and ranks these proposals for the District Development Committee, which in turn passes the ranked proposals to the Divisional Development Committee. Proposals from other racial groups, on the other hand, are forwarded to the Consultative Committee in their areas and then to the Rural Advisory Council. This Council ranks these proposals, and passes them to the District Development Committee, which also receives the ranked proposals from indigenous Fijians. The District Development Committee forwards their proposals to the Divisional Development Committee, which in turn makes its recommendations to the Development Subcommittee. The Development Subcommittee advises

Cabinet, which submits the recommendations to Parliament for final endorsement (Lasaqa 1984:146).

The Rural Development Administrative Structure allows for good coordination and prioritisation of the development initiative proposals, but approval and implementation is time-consuming and cumbersome and does not augur well for communities seeking rapid attention to their needs. The process demands long-term planning of three to five years, which is often not possible at the community level, where needs are immediate (Nayacakalou 1978:15).

Figure 3.3 The Rural Development Administrative Structure.



Source: Lasaqa, I., 1984. *The Fijian People Before and After Independence*, Australian National University Press, Canberra: 146-8).

In addition, the enthusiasm for development initiatives is often lost because of the time taken in decision-making, and people need to be encouraged once more when funding is approved. The process can also easily fall under the control of government officials, local elite and politicians, who can affect the

distribution of aid and development assistance and its timing. Nevertheless, the Rural Development Administrative Structure represents an attempt to accommodate local initiatives and to coordinate the development effort in a complex situation where people from different sociocultural groups live in vastly different conditions in urban and rural areas.

This structure however does not specify the government ministry that is responsible for implementing particular rural development activities. The multiplicity of ministries makes it difficult to coordinate rural activities that the different ministries undertake. In reality, it seems, each ministry decides on its own rural development programmes which are then promoted to the other relevant ministries, which are free to be engaged in the initiative if that is consistent with their own plans. Thus, any rural development initiative in an indigenous Fijian village can be undertaken by any of the government ministries by themselves or in association with others. Some of the ministries that are involved in rural development projects include the Ministry of Regional Development and Multi-Ethnic Affairs, the Ministry of Fijian Affairs, the Ministry of Agriculture Fisheries and Forest, the Ministry of Education, the Ministry of Health, the Ministry of Women, Culture and Social Welfare, the Ministry of National Planning, Local Government, Housing and Environment, the Ministry of Tourism and Transport and the Ministry of Youth, Employment Opportunities and Sports.

At the moment, development projects are haphazardly implemented without any attempt to streamline the process or reconcile the perceptions with reality. For example, there is little evidence that the national objectives for the development projects are those pursued by the people involved. This is why we need better rural development project procedures in Fiji.

### **3.3.2 Rural development issues**

Rural development issues can be examined with the use of local illustrations. The issues include the types of activities introduced, the manner in which the rural development was undertaken, and the effect on the people and their living conditions. One of the first rural developments undertaken in Fiji, and indeed in the Pacific, was the Community Development in Moturiki (Hayden 1954:9). This project, which was undertaken in the early 1950s, aimed to

stimulate community development amongst villagers who were willing to be part of the development. However, instead of identifying only those who were willing, the project involved all the villagers in Moturiki. The choice of the project site was influenced by economic considerations. The rural development package included the rebuilding of houses, improvement of latrines and water supply, copra and pineapple production, formation of cooperatives for farming and marketing, introduction of small livestock, health education and nutrition, development of local craft, a literacy campaign and the construction of a jetty (Hayden 1954:12). The project even promoted the reorganisation of settlements to address the problems of land, water and education (Hayden 1954:43).

Life in Moturiki, which was originally pleasant and leisurely with no food problems, was transformed to one that demanded steady work and organisation (Hayden 1954:6). The developers were uncertain about the capacity of the people to meet the demands of a regularised lifestyle and were convinced that incentives would solve the problem. The project failed for reasons that are still relevant today. First, the people in their enthusiasm agreed to contribute 50 per cent of their copra sales income to a development fund (Hayden 1954:43, 51). This contribution was agreed to before the project started, but was later found to be too burdensome. Second, the capable and inspired leadership that was critical for community development was lacking; one of the scheme chairmen was accused of misappropriating project funds, a common problem with community development. Third, people were not familiar with how committees operated. Other problems included a lack of cooperation when things were not done as the people wanted; jealousy, particularly amongst the women; people only turning up to work when publicity was likely; and the influence of private affairs on official work (Hayden 1954:131).

Other scholars, however, blamed the failure of the project on its design. The project was externally formulated in a top-down manner and was imposed on the people. It thus benefited the promoters rather than the people (Watters 1969:247). There was no trained local leader and the project did not provide any tangible benefits at an early stage (Spate 1959:79). The high input from outsiders hindered the involvement of local people, who were soon

disillusioned and desperate (Crocombe 1976:12). Therefore, it was tragic that, after awakening fresh hope and instilling new needs in the local community, the project team withdrew without ensuring adequate follow-up activities to enable the people to achieve their hopes and satisfy their needs (Spate 1959:79).

After the Second World War, a different Fiji emerged. Development became heavily dependent on expatriates, a government-led export economy, a local petit-bourgeoisie of Indo Fijian, European and Chinese descendants, indigenous Fijian landlords, and Australasian-dominated merchant companies. In addition, there was a decline in the subsistence economy, wage-work for indigenous Fijians and a mass of small holder Indo Fijian cane farmers (Plange 1996:219).

By the end of the 1960s, it was clear that the disparity between the different communities in Fiji was increasing. As a result, modernisation was promoted in Fiji around independence in 1970 because of the belief that indigenous Fijians' tradition, culture and sociocultural systems were backward and thwarted Fiji's economic progress (Spate 1959:1; Burns 1963; Belshaw 1964:282; Watters 1969:12; Fisk 1970:3). Consequently, there was a concerted effort to transform traditional indigenous Fijian society into a modern society tailored on the European system. For instance, the advocates of modernisation believed that the involvement of private enterprise and the achievement of economic growth would stimulate the development of the country through a trickle-down process.

Rural development initiatives also included the construction of townships, roads and airstrips and the establishment of junior secondary schools and commercial enterprises. These developments were meant to reduce the movement of better educated, competent people into urban centres. However, the outcomes of these rural development initiatives were disappointing. The poor state of the markets and infrastructure and the people's customs and traditions hindered the operation of viable profit-making ventures in rural areas (Spate 1959:36; Fisk 1971:137; Nayacakalou 1978:40; Ravuvu 1988a:202, 1988b:8).

Rural development objectives throughout Fiji's independent history have largely been aimed at improving the level of income of rural dwellers in an attempt to reduce the economic gap between them and urban dwellers (Ravuvu 1988a:179; 1988b:70-1). The rural development programme is designed to assist people to help themselves by encouraging those at the grassroots to define their development needs and to identify the resources available to meet these (Nayacakalou 1975:143; Lasaqa 1984:141).

Rural development is also made more complicated by the multiracial nature of the population. Hence, rural development is not just to improve the conditions in rural areas, it must also address the racial question. Indigenous Fijians, who were initially encouraged to remain in their villages, are now demanding to be involved in other sectors of the economic life of the country (Tupouniua *et al.* 1975:33). The involvement of indigenous Fijians and Rotumans in economic activities thus has to be brought in line with those of the other racial groups (Watters 1969: 193; Chandra and Gunasekera undated:43). The location of indigenous Fijian communities throughout the country makes the challenge even more demanding, as development activities must be seen to involve everybody and not just some groups in certain areas.

Deciding on development projects is also critical given Fiji's widely differing socioeconomic conditions. For the Government, there is the need to show that it is serving all its people in a fair and equitable manner. Common issues that need to be considered include what areas are to be served first, how the development is to be financed and what development is to be undertaken. These are complicated issues because the poor results have made the process doubtful with little knowledge on how better rural development activities can be achieved. For instance, indigenous Fijians require inputs of capital, infrastructure, experience and skills, managerial expertise, hard work and dedication if they are to be successfully involved in rural development.

There is also a notable influence of kinship. In addition, the 'subsistence economy mindset' and conspicuous consumption affect commercial activities (Qalo 1997:38;134). A person therefore will take time off work or spend a great deal of money in a ceremony because that is the expected thing to do according to custom even though these may be economically irrational



(Watters 1969:198; Ravuvu 1988a:188; 1988b:73). In many cases, the initial enthusiasm in a development activity in time 'slowly regresses to a slightly modified version of the old life' (Chung 1988:99). These issues and others need to be addressed appropriately if the development initiatives are to succeed (Fisk and Honeybone 1971:137).

The coups in 1987 were argued to be part of the attempts to address the ethnic problems associated with the colonial influence. The coups prompted 'revolutionary' political and economic changes in Fiji. The result, thousands of people who had up till then regarded Fiji as their home left the country taking with them their skill and capital. Positive racial discrimination that emphasised the needs and interests of the indigenous communities became the basis of government policies and strategies. For example, the Army's Auxiliary Unit was established to stimulate commercial activities in the villages. The unit was originally allocated F\$20 million, which was reduced to F\$12 million because of the unit's limitations and its lack of regulatory mechanisms. The unit operated at a loss but for a while it appeased the villagers who benefited. The causes of the failure were attributed to both the villagers and the project officials. The villagers lost interest after a while and returned to their own schedules. There were restrictions on what the villagers produced and sold. On the other hand, there were allegations that the project officials, who were mostly army personnel, lacked the skill to operate the venture. As a result, goods were unsold or unaccounted for. There were lot of empty trips to rural areas, where the people were not ready for these visits.

The Equity Investment Management Company Limited (EIMCOL) was another attempt to induce indigenous Fijians and Rotumans participation in the commercial sector. In this case, married couples were trained and allocated store and supermarkets that were secured through a joint Government and Fiji Development Bank (FDB) operation (Fijilive 1999g, 1999h). The scheme set up eight stores and supermarkets. Like the Auxiliary Unit, EIMCOL failed because the participants in the scheme were ill prepared to operate these commercial ventures (Qalo 1997:96, 196). The shops were poorly chosen, as they were located in places where larger and well-established supermarkets provided stiff competition for which these businesses were unaccustomed. In

addition, there were allegations of careless buying and wastage by the people involved in the programme.

The affirmative policies were also supported by special loans from the FDB and education scholarships. In most of the cases, the results were disappointing mainly because the people who were assisted were not the most appropriate to undertake the chosen development activities. In other instances such as with the sale of shares in the Fijian Holdings, the benefits of these affirmative initiatives were most beneficial to the indigenous elites. The majority of the people particularly those in rural areas were never affected.

The situation also caused great strife amongst other racial groups as summarised in the *Fiji Times* editorial on November 2, 1994:6.

'No one disputed the need to have more Fijians involved in commerce, but the practice of disadvantaging one group of traders to boost the stocks of another is like nobbling the fastest horse in a race so the rest can keep pace. The end result is that you go nowhere fast. Surely there is someone in the Government with the imagination and drive to come up with an effective, but fair, scheme to enhance the business prospects of indigenous Fijians without making half the country feel like lepers'.

Experiences have proven that it had been wrong to assume that indigenous Fijians would succeed in commercial activities if financial assistance was provided. This assumption had ignored that commercial ventures require skills, business acumen and a certain level of infrastructure (Watters 1969:204). The result has been the wastage of project money and resources that were committed to prompt the involvement of indigenous Fijians particularly those in rural areas in commerce. Most of these racially-biased initiatives aimed at uplifting indigenous Fijians were in the end dominated by members of other ethnic groups who were more prepared to handle them. For example, the National Marketing Authority, the Fisheries Division and the Army's Auxiliary Unit have all unsuccessfully tried the marketing concept that is now performed profitably by some of the fish marketing companies. Furthermore, the involvement of the military in commercial farming, rural development and commerce provided necessary training that were all later written off after accumulating huge debts. Meanwhile, the 'Pacific Way' is used to justify the

special treatment of indigenous Fijian business operations as well as apportioning blame for their failure (Qalo 1997:38).

Alternative approaches of 'needs based', 'bottom-up', community-based development and sustainable development, have featured prominently in rural development in recent times. For instance, it was Government policy to provide two-thirds of the total cost of any rural development if the community contributes the other third. This seemed a better arrangement than the loans because people worked to meet their contribution before they receive the goods or service. In addition, as was the case in the Central Division between 1994–95, a provincial profile was compiled detailing socioeconomic information on each of the villages and districts. Such information was then used in cost-sharing development schemes such as rural electrification, water supply and boats were undertaken. In some coastal communities people had designated part of their customary fishing grounds 'protected areas' and extended the concepts of ecotourism to the protection of their environmental resources.

However, in a number of 'basic needs' initiatives, facilities provided had deteriorated due to nonuse. In a number of islands, the bush had reclaimed the roads and the airstrips while the schools and other facilities have not been fully used disproving the idea that sustained economic growth can be induced with the provision of a number of conditions and facilities. The involvement of outside organisations such as environmental groups and NGOs complicated the approach even more. In some instances, it was common for local people to be led by outsiders in community-based development projects. In such situations, local communities have little say in the development work done.

The most recent illustration of the failure of government driven rural development programmes was demonstrated through the Ministry of Agriculture Fisheries and Forests' Commodity Development Framework (CDF). The CDF was probably Fiji's largest national development initiative. The programme was established at the end of 1997, funded by the national government. It was to run for four years. With a budget of F\$69 million, the CDF was earmarked for revamping the agricultural, forestry and fisheries sectors. It was based on the idea that agricultural development should

encompass the whole process, from production through to processing and into the marketing of the final product. The concept emphasised production and value-added activities to boost agricultural activities in the country.

The CDF reflected the Government's policy change from intervention to deregulation, private sector development and export-led growth. It also emphasised the need for diversification and the transformation of subsistence into commercial farming. Although the aims of the CDF were laudable, its specific targets were ambitious and its delivery system inefficient and wasteful (Wise 1997; Ragogo *et al.* 1999:3). Government's projection to increase the annual income from commodities through the CDF by more than F\$745 million seemed excessive (*Fiji Times* Nov 25, 1997b, Ragogo *et al.* 1999:3).

Moreover, there was no proper procedure for choosing beneficiaries, disbursement and monitoring (Fijilive 1999d). In addition, accountability was difficult as the project was hurriedly and secretly planned by the MAFF with no input from the Central Planning Office, controlled by the ministry and reported to the ministry (*Fiji Times* 1997b). Consequently, the ministry could not confirm how much of the money had been spent and on what. Indeed, there have been allegations that the CDF was misconceived, misguided and mismanaged (Wise 1997:1; Fijilive 1999a, 1999b, 1999d; Kissun 1999:1; Leweniqila 1999:7; Ragogo *et al.* 1999:3).

The CDF promoted private sector involvement without considering the overall goals, strengths, weakness and requirements. The project was a typical top-down initiative that did not involve the people during its formulation. Although Government wanted partnership with the private sector, it did not consult it. Instead, the CDF was used to bail out ailing agriculture-based industries. For example, the Pacific Fishing Company (PAFCO) received F\$5 million, Wonder Gardens received F\$500,000, Yaqara pastoral Company was given F\$749,376, and the copra mills in Vanua Balavu and Lakeba were given F\$200,000 allegedly paid to the President, Ratu Sir Kamisese Mara. Unfortunately, there was no indication of how these CDF funds eased these companies' financial problems, as there were no verification of whether the money was used for the required purposes and whether it made a difference

to the status of the ventures. Consequently, it seemed the funds were just handouts to cushion the imminent failure of these operations.

Crops such as *yaqona*, ginger, seaweed and traditional crops such as taro, yam, pawpaw and cassava were also covered in the programme under the crop and fisheries subsectors. These subsectors were allocated F\$9.73 million up to December 1998 but it is interesting to find out the amount that actually reached the people in rural areas who were involved in the project. In a particular department, F\$234,690 of its F\$400,000 allocation under the CDF was spent on buying 13 vehicles (Ragogo *et al.* 1999:3). An additional F\$29,900 was earmarked for additional vehicle maintenance. There were also shady dealings. In one instance, MAFFA assisted the Squash Enterprises Limited with a payment of F\$95,000 on the strength of a proposal on paper which did not go any further. In addition, there were overseas trips and other purchases that were not part of the programme.

It was not surprising then that one of the first things that the new government did when it came into power in May 1999 was to review and consequently suspend the CDF (Fijilive 1999c). This sad and costly episode exemplifies the need to make development approaches more realistic and appropriate. The CDF has shown that monetary inputs alone cannot solve the problem of rural development and that poorly formulated projects were likely to be far too costly for the country. One thing was confirmed, certain people benefitted more and few of these were from rural communities. These types of situation support the need for a new approach to rural development.

### **3.4 Conclusion**

The discussion on the cultural and institutional context in Fiji provides the background knowledge that is required to understand the rural development issues that will be discussed in the remainder of the thesis. Indigenous Fijians were originally based in traditional villages, which have changed after approximately 200 years of European contact. Indo Fijians and the other races, on the other hand, came in as labourers and are now predominant in the sugar cane growing areas and the main urban centres. The disparity between the urban and rural areas and between the different racial groups is a

challenge that has to be addressed through rural development activities. However, the rural development activities must be suited to the conditions that are prevalent in the country.

The institutional structure is set to coordinate the requests from the people. However, there is a need to improve on the coordination within the different Government ministries to ensure that appropriate assessments are undertaken for all development initiatives proposed. This point, is taken up in Chapter 8, because it is important to the overall performance of the development projects.

The discussion of the issues stresses the need for a new rural development approach. Experience up to now has demonstrated that there are problems associated with the common theories and approaches. The resources committed to these activities need to produce better results. People in rural areas need to be committed to their development activities and to be competent to undertake rural development work. Government must particularly support those people and groups who prove they are prepared to undertake the development activity. Rural development should be redesigned so that people are supported in the development activities that are consistent with the guidelines for desired projects. Such an approach would enhance the design of appropriate rural development projects that reflect people's drive and commitment and the opportunities available in different areas.

I will now turn to the case studies to illustrate the reasons why a new approach to implementing rural development is needed.

## 4.2. Conceptual Framework

The first chapter of this book reviews the role of the government in rural development and the role of the private sector in rural development. It also discusses the role of the community in rural development. The second chapter discusses the role of the government in rural development and the role of the private sector in rural development. It also discusses the role of the community in rural development.

## **4. Evaluating rural development**

### **4.1 Introduction**

Rural development through activities such as fisheries development projects should be evaluated to determine whether they have achieved their objectives and whether they have met the needs of the people involved. Development projects should also be evaluated to determine what is needed to improve their performance, justify resource allocation and determine accountability (Australian Department of Finance 1994:4). Evaluation can be conducted on the whole project or only on parts of it. Parts of the project that can be evaluated include whether the project addresses a common interest, provides benefits that outweigh the costs, or results in new opportunities. In addition, projects can be evaluated to see if they are equitable, embedded in the social organisation, involve local leadership, knowledge and skills, are owned and enforced by local people, or have caused excessive environmental damage. Given the different features that can be evaluated, it is important that those features used in any evaluation are clearly spelt out by those conducting the evaluation. It is also important to attempt to evaluate as many of the features of the project as possible.

This chapter is divided into four parts. The first part examines the conceptual framework for this study. The second part describes the methodology and provides the reasons why development projects should be evaluated. The section also discusses some features of the evaluation. The third section reviews the research design and explains the process of the research and the main features of the study. The fourth and last part details the research strategies and the study sites.

### **4.2 Conceptual framework**

This study is based on three premises. First, the failure of rural development projects is the result of problems that are associated with the development approaches used in the planning, implementation and monitoring and evaluation of the projects. Second, the outcome of development projects can

be improved if the problems that caused the failures of earlier development projects are taken into consideration when new projects are implemented. Third and last, there must be a change in the way rural development projects are undertaken if the outcomes of future developments are to be more beneficial.

Development approaches such as modernisation, integrated rural development, needs based development and sustainable development have featured prominently in the Pacific Island countries at different times. However, the performance has been poor because of the problems that hinder the achievement of the development project objectives (ABD 1996; Schoeffel 1996:61–94; Overton and Scheyvens (eds) 1999). These poor performances highlighted the need to adopt a development approach that is realistic and suited to local conditions.

The failure of rural development projects is due to many factors that were not seriously investigated at the time the projects were undertaken because of the development approaches used by government. These approaches assumed that if the rural development process were triggered through the provision of certain key conditions such as training, capital and technology, the project would take off. It was also assumed that people would maximise their production to better their living conditions and that the growth centres will stimulate the expansion of economic activities into surrounding areas. Unfortunately, as the case studies in Chapters 6 and 7 show, this was inaccurate and an oversimplification of the process.

With the benefit of hindsight, we can study the problems that have caused the demise of development projects in the past and investigate ways that these problems can be addressed in the future. However, because these problems are so complex it is more useful to examine them in a particular context. Here I use fisheries development projects to assess and evaluate the problems that have occurred. It is important that development projects suit the conditions that exist in a particular area. It is therefore unrealistic to introduce projects on a national basis, as currently done, because conditions differ greatly within the



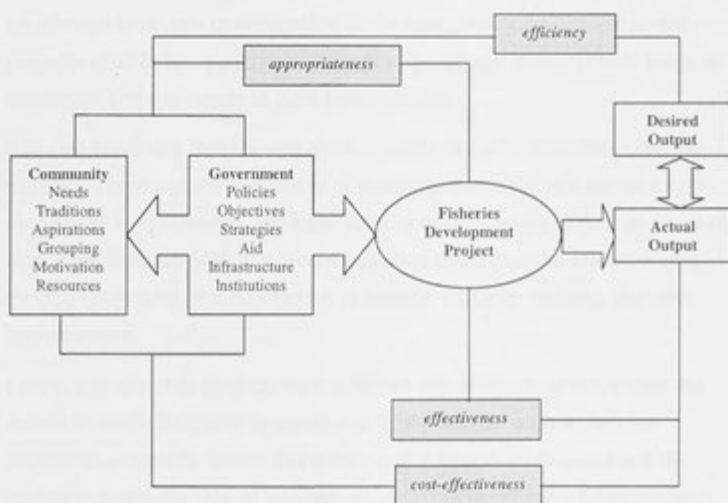
country. For this reason, development project planning, implementation and monitoring and evaluation need to be more stringent and decisive.

The rural development approaches used now are well-established. Projects, based on government policies and strategies, are formulated by government and development agencies and are promoted through extension programmes utilising various incentives. The people, often through the instigation of these government officials and development agents, then prepare proposals, which are submitted to government departments and funding agencies. These proposals are investigated and, if approved, are rapidly set in place. Some of the ventures succeeded while the majority failed. As this study shows, alternative methods for undertaking rural development are required.

The conceptual framework for this study, summarised in Figure 4.1, links together the range of factors which influence the outcome of rural (fisheries) development projects. Fisheries development projects are designed to achieve certain desired outcomes that reflect government policies and objectives and the needs of the community. These outcomes are expected at the national as well as the individual levels. It is imperative then that in planning and formulating, implementing and monitoring and evaluating projects, government and development agencies are familiar with the requirements of planned development activities at the various levels. The development activities should reflect the resources, the infrastructure, institutions, and the capacity of the people in a place. In addition, they reflect government policies, strategies and infrastructure and institutions. These requirements differ between areas and should be carefully assessed during the planning stage. For instance, there would be a difference in resource endowment according to whether one is dealing with natural resources, human resources or capital. Likewise, the state of infrastructure and institutional framework would be different in the villages and the urban centres. Moreover, people's capacity would be different because these would be related to what they need and aspire to given their situation, tradition, and motivation. It is therefore critical that project formulation, implementation and monitoring and evaluation are carefully carried out to reflect these conditions.

Rural development projects such as those undertaken in fisheries consist of inputs and outputs. As with all development activities, the failure of fisheries development projects occurs when the actual outcomes are not the same as the desired outcomes. The shortfall is normally the result of development activities, which because of some unforeseen reason do not occur as expected. This is why it is important that reasons for the actual output be determined and those factors that hindered the achievement of desired outputs are addressed. I illustrate these points in Chapter 6 and 7. The four performance criteria given should be used to enhance more successful projects.

**Figure 4.1. The conceptual framework for the study**



Note: The lines only show the evaluation linkages and not the cause and effect relationships  
 Source: Veitayaki, 1999. Field data

Development projects must be appropriate, which means that they need to be properly planned and undertaken for the reasons that the situation in a place determines. This requires that the people involved should be consulted to ensure that their needs and preferences are met and that the impact of the development activity is consistent with the desired changes that government

and the communities want. Development activities must also be socioculturally suitable and sustainable.

Likewise, the projects must be cost-effective, which require that the costs of any development, in money terms, are justified by their outcomes. Projects for which the economic calculations are inaccurate will not be viable in the long term and will be a burden on the people and their government because they are inefficient. Rural development initiatives require capital inputs that the people involved in the projects need to provide to allow for their involvement. The majority of these people take loans from funding sources that need to be repaid. Another notable feature of the projects has been the involvement of development assistance. These externally raised funds have been important in the implementation of development projects. However, aid agencies must not be allowed to dictate unacceptable terms and conditions. Development projects at all times must be consistent with national development plans and strategies and the needs of local communities.

It is also important that development projects are effective. This criterion measures how well the outcomes of development initiatives achieve their objectives. Unfortunately, the objectives at various levels do not always tally. Important features of development activities that influence effectiveness include leadership, the distribution of benefit, capacity building and new opportunities.

Lastly, it is vital that development activities are efficient, which shows the extent to which programme inputs are minimised for a given level of programme outputs. Under this criterion, the important features are the institutions and the type of technology. Arrangements have been made in many development projects to incorporate the work of different government departments and development agencies to enhance efficiency. These arrangements require good coordination to ensure that the different organisations pursue objectives that are consistent with national plans and strategies as well as their own mandates.

### 4.3 Methodology

This study is based on both the systems approach described by Checkland (1981) and the evaluation guide prepared by the Australian Department of Finance (1994). The systems approach, which consists of 'real world' activities that concern people in the problem situation and 'system thinking' activities which may involve those in the problem situation, allows the simultaneous consideration of a problem at different levels of detail and at various positions. The approach avoids reductionism by viewing the problem in terms of systems with interrelated parts and emphasises process rather than a blueprint plan. Thus, backtracking and iterations are essential components of the methodology (Checkland 1981:162). The systems approach identifies seven chronological stages in the study of a problem. However, although these stages are presented in sequence, the process can in fact begin at any stage.

Stages one and two of the systems approach express the situation in which there is a perceived problem. Stage three involves the naming of the systems which are relevant to the problem. The next stage involves the making of conceptual models relating to the development problem. Stage five involves the comparison of the conceptual models made in the previous stage with reality. Stage six defines the desired changes, which meet the criteria given the costs and socioeconomic situation. Finally, stage seven involves the improvement of the problem.

The evaluation guide prepared by the Australian Department of Finance (1994) identifies four main types of evaluation. First, evaluation of appropriateness assists decision-making by addressing questions relating to the need to continue an existing project, or implement a new project and the role that government should play in the implementation. Second, efficiency evaluation examines the extent to which project outputs are maximised for a given set of project inputs. Third, effectiveness evaluation assesses the extent to which the project outcomes are achieved and establishes a cause-effect interpretation of the outcome of the project. Fourth and last, cost effectiveness evaluation explores the technical quality, usefulness, cultural sensitivity, ethics and social justice of the project (Australian Department of Finance 1994:4). In

this study, I want to identify the factors that influence the outcome of fisheries development projects. I therefore undertook a whole project evaluation that included aspects of each of the four types of evaluation with an emphasis on understanding the factors that need to be better addressed to improve the outcome of future projects.

Characteristics of preferred project outcomes include: provision of a steady source of income; improvement in people's living conditions; active involvement and participation by the beneficiaries as well as by those affected by the project; and rigorously tested costs and benefits to ensure economic viability and ecological and social sustainability. The use of appropriate technology and the enhancement of human capacity to ensure the transfer of skills and technology are also emphasised (McKinnon 1993:A3.2). In addition, a development project should contribute to the quality of life of the people as well as add to the achievement of the national goal for the project. The success of development projects is dependent on how these features are addressed.

There are many reasons why it has been difficult to undertake successful development projects. The projects might have been introduced hurriedly and for the wrong reasons. They might have been too costly in terms of money, requirements or in terms of the resources used. Furthermore, the projects might have been poorly managed by people who were either incompetent or selfish. Other reasons for the failure of development projects include social conflict which interferes with the operation of communal ventures, inability to persevere with the development activity and differences over the pursuit of matters of common interest such as equity and income distribution. This is why it is important to use the experiences with earlier development projects to explore ways to improve the outcome of future projects.

#### **4.4 Evaluation and assessment**

Rural development projects need to be systematically evaluated to ensure that they are fulfilling their objectives and reveal the accurate status of the project at the time of the evaluation. Unfortunately, the evaluation of projects has not

received sufficient attention until recently (Chambers 1985:119; Australian Department of Finance 1994:2; Hinds and Bacon 1998:539). This, however, is changing because the current requirement to measure the outcomes of development projects and identify the social indicators of development. Aid agencies, for instance, have supported and promoted project evaluation to defend their activities and improve their operations. In addition, appreciation of the complexities and difficulties surrounding rural development has laid stress on the need to link the research, experiments, evaluations and the replications of rural development initiatives.

The purpose of evaluation is to examine the costs and benefits, performance and effects of projects, to tease out the lessons learnt; and to present recommendations, based on these findings, to abandon, reduce, expand or modify a project (Australian Department of Finance 1994:3). Evaluations provide credible, timely and objective findings, conclusions and recommendations to bolster decision-making, resource allocation, programme improvement and accountability (1994:4). However, despite the importance of these aims, evaluation methodology is not well established.

It is difficult to conduct evaluations and identify the causes and effects of development projects, particularly in villages where records are not properly kept and where several different activities are undertaken simultaneously in the community. This occurs in indigenous Fijian villages, where multiple causation cannot be held constant as 'most of the effects which can be identified as benefits can be attributed to alternative causes or inputs, or a combination of these' (Chambers 1985:122). In the cases examined here, however, the development projects were so influential on village life that I assumed that the people would distinctly remember the changes caused by the introduction of the projects. Evaluation is also difficult because it is bound to stress quantifiable and measurable inputs, and ignore those that are important but intangible and harder to quantify and measure. This is why it is critical that the indicators are carefully chosen. It is common to use inputs and outputs to evaluate the project, but these would neglect the effect of hidden processes, exogenous facts, local context and efficient decision-making, which

are critical to the performance of development projects (Australian Department of Finance 1994).

Rural development projects have both anticipated and unanticipated impacts. The anticipated results include the expected impacts that are related to the stated objectives of the project. However, in the course of attaining those stated objectives certain people involved in the projects will also acquire other skills or opportunities that will affect their lives and living conditions. For instance, there will be changes to the social structure and organisation. Only evaluation that is perceptive and flexible is likely to recognise these unanticipated effects. Evaluation must also acknowledge the changing goals of a project over time.

Evaluation is influenced by factors such as experience, skills, preferences, motivation, organisational and political relationships, and choices in resource use (Chambers 1985:121). People conducting evaluation therefore must have an open mind, a sense of what is practical, and good judgement to evaluate objectively. Personal values can influence the evaluation because what an evaluator chooses to assess in terms of criteria, processes and interviews determines the conclusions of the evaluation.

Discipline is required to ensure that the evaluation is made in a timely fashion. Evaluation must not be restricted in its coverage to any one academic discipline but must be concise and practical. The results of an evaluation must be used to enhance performance, which means that evaluations must be conducted within a particular context. That is why it is important that the evaluator understands the local context, including the economic, social, cultural, institutional and infrastructural conditions (Hinds and Bacon 1998: 539–43). In addition, the evaluation must reflect the development goals and philosophy used in a project. End of project evaluation has not been properly undertaken and people involved in development projects are not aware of the reasons for the failure of their development projects and are continuing to repeat the same mistakes in subsequent projects.

## 4.5 Research design

This study involves the assessment of rural development theories and past experiences to comment on how the future projects can be made more successful for people in rural areas. An outline of the research is summarised in Table 4.1.

For this study, the two chosen fisheries development projects were evaluated using the four performance criteria of appropriateness, cost effectiveness, effectiveness and efficiency (Australian Department of Finance 1994). Appropriateness explores the extent to which the programme objectives and desired outcomes align with government objectives, priorities, and clients' needs. The appropriateness of the project determines whether the project is required and whether it should be continued. Cost effectiveness measures the relationship between the inputs and outcomes in dollar terms and also considers the technical quality and factors such as cultural sensitivity, ethics and social justice. Effectiveness examines the extent to which programme outcomes have achieved the objectives of the programme and the extent to which it can be claimed that the project caused the outcomes. Lastly, efficiency establishes the extent to which the programme inputs are minimised for a given level of programme outputs (OECD 1992:77; Australian Department of Finance 1994:8). The four criteria would allow for a holistic evaluation of the projects to show how they performed in real situations. This holistic approach was necessary because rural development projects cannot be realistically evaluated unless all the contributing factors are simultaneously taken into consideration (Caldwell and Hill 1988:34).

The study also included a literature review, in-depth interviews using a pretested semistructured interview schedule, group interviews and participant observations. The literature review examined the situation at the national and individual levels, while the data obtained from the field study detailed the situation at the community and individual levels. Moreover, the literature review also provided a historical perspective and examined the international and national context, while the micro level data explained the differences between the cases in different locations. These two sets of data complement and



reinforce each other and lie at the heart of good research: 'work that is informed by broad issues and questions yet based on intimate local conditions and context' (Seniloli 1992:22; Overton 1993:102).

**Table 4.1 Research objectives, data required, source of information and presentation.**

Research objectives	Data required	Source of information	Presentation
Review the rural development theories and their application in the Pacific Islands with particular reference to Fiji	What were the main rural development theories? What were the main features? How did it affect rural development in the Pacific Islands and Fiji?	Literature and secondary sources	Chapters 2 and 3
Investigate the problems of fisheries development projects and identify the factors affecting performance of projects	What are the main problems of fisheries development projects? What factors caused the failure of fisheries development projects?	Primary sources – interviews, observations. Secondary sources	Chapters 3, 5, 6, 7 and 8
Discuss solutions to the problems of fisheries development projects	How can the problems that cause the failure of fisheries development projects be addressed?	Primary sources – interviews, observations. Secondary sources	Chapters 5, 6, 7, 8 and 9
Identify ways in which future rural development projects can be improved	How can future fisheries development projects be implemented to address the problems currently faced?	Primary sources – interviews, observations. Secondary sources	Chapters 8 and 9
Provide basis for the evaluation of fisheries development projects in the future	How can the study contribute to future research?	Primary sources – interviews, observations. Secondary sources	Chapters 1 and 4

Source: Veitayaki, 1997. Field research

The collection of secondary materials was extensive, as relevant information was located in different, but relevant academic disciplines. A wide coverage of the literature was necessary given the multidisciplinary nature of the study. In addition, the 'grey' literature, which included government and consultancy reports, provided useful information, some of which have rarely been used before. Unfortunately, the state and management of many of these reports was not good and I can only imagine the amount of useful knowledge that is not shared publicly because the information remained in these reports.

An analysis of the Fiji Government's Rural Development Objectives and those of the Fisheries Department provided an insight into Government's position on

fisheries development projects (see Chapter 5). The two case studies, the boat building and seaweed farming projects, are fisheries development initiatives that were promoted under modernisation and integrated rural development policies of the DP 8 and DP 9 period. The boat building project was part of a programme of externally driven and government initiated activities that were implemented to boost capacity and production in the inshore fisheries sector. On the other hand, the seaweed farming project was part of the private sector initiated and government backed rural development activities to provide a steady source of income in the villages.

The case studies provide insights into the outcomes of the projects in different parts of the country and offer a 'vivid and accurate image of what was present and what was happening in parts of the wider region' (Clarke 1971:205). The case studies present complex, real world situations in a less complicated manner, and allow better understanding of the functioning of the real world (Nunn 1987:13). Furthermore, case studies emphasise the depth of the study of a particular problem taking into consideration the relationships and processes involved. The method also allows for the use of multiple sources and of the natural setting (Denscombe 1998:31-9).

Case studies also present both qualitative and quantitative information. Clarke (1971:205), for example stressed, that 'in the field the act of measuring has value beyond gaining numerical data'. Caldwell and Hill (1988:8,3), added that in the qualitative approach, with its intensive and continuous contact with one group, and use of flexible research methods, the researcher has the advantage of being more accurate in explaining the scale and the tempo of the changes that would not be possible to gauge through the survey responses. Carr (1994:75) shared a similar view, noting that the use of such qualitative research tools is valid because 'it is based upon an individual's own construction of his or her perception, feeling, attitudes and beliefs'. In addition, the indepth semistructured interviews ensure that information that is never a part of official reports is obtained, and that fishers' and villagers' recollections are adequately checked (Denscombe 1998:113). In such situations it is necessary to validate the respondents' responses through follow-up questions

and clarifications, which would have been impossible in research using questionnaire methods. The interview process 'is also appropriate to extract information on people's behaviour, motivation, values and attributes' (Denscombe 1998:113).

#### **4.5.1 Data collection**

To identify the factors to be studied, I started with commonly identified problems of fisheries development projects. I made up a list of 20 element questions using the problems commonly mentioned in the literature. These questions were used to evaluate the case studies to obtain comments from people who were in some capacity involved in the projects. The 20 questions were divided into five each for all of the four performance criteria (Table 4.2).

The field study for this research was conducted in Fiji between the last week of June 1997 and the last week of March 1998. During the ten months spent on empirical research, the answers to the questions in Table 4.2 were sought through the questions provided in Appendix 1. The same questions were asked of each respondent except in instances such as within the same villages where the answers were repeated – an indication that the point had been raised previously.

Prior to the field visits, I gathered background information and finalised the selection of the study sites and the people to be interviewed. This was a long-drawn-out process because I was unable to obtain any reliable official records from the Fisheries Division. I therefore decided to use a nonrandom sampling method and interview as many respondents I could find in the many places I visited. I hoped this would enable me to gain better and representative understanding of the people involved in the projects.

I made arrangements to meet some of the people who were involved in the case study projects. I worked through a few friends and used their networks to get introduced to some of the people involved in the projects. As I became familiar with these respondents, I began to develop my own network, which I then used to involve more people in the interviews. I also used those information to finalise my study sites. For instance, I decided not to visit the

Yasawas as I had planned because I could meet these fishers in Lautoka. Likewise, I decided to pay two visits to different parts of Kadavu because it was cheaper and more logical to do so given the scattered nature of projects within the island.

**Table 4.2 Criteria and element questions for evaluating fisheries development projects**

Performance criteria	Elements questions
Appropriateness	Were people consulted during planning? Was the project relevant to local needs? Did the project improve people's lives? Was any attempt made to avoid environmental damage? Was consideration given to the sociocultural dimension?
Cost effectiveness	Was capital readily available? Was the loan repaid in full? Did the benefits outweigh the costs? Was this the cheapest alternative? Was the project awarded fairly?
Effectiveness	Were the objectives of the project met? Was the project leadership adequate? Were the benefits equitably distributed? Was there adequate human resource development? Were the impacts on the community favourable?
Efficiency	Were the institutional arrangements adequate? Was there any monitoring or evaluation? Was the choice of technology appropriate? Was the marketing infrastructure adequate? Was there sectoral cooperation?

Source: Veitayaki, 1997. Field data

With the boat building project, finding suitable people to be involved in the study was difficult. I made frequent visits to the wharves and other berthing sites to meet with boat owners. Sometimes the people I talked to were not aware of the background information that I was interested in because they were either not the owners or were latecomers to the project. I also had to gain the confidence and trust of these fishers to get realistic responses. This was difficult, given the time restriction and the project participants scattered locations. Some of the people involved in this boat building project had moved on to do other things in other parts of the country, while others had left the country. In addition, the recorded names of projects were specific to the people and generally were not directly associated with common village names or those of the people involved (this is evident in the information in Appendix 3). Ground surveys were undertaken once sufficient information was gathered about the identities of the people who had been involved in the project.

However, there were no guarantees that the ventures were still in operation or that the people previously involved were either still in the area or available to be interviewed. In some of the cases, the meetings with the boat owners occurred purely by chance.

Deciding on the interviewees was much easier for the seaweed farmers, most of whom still lived in their villages. In these cases, all I had to do was choose the villages I wanted to include in the study. However, there were no official project records available for seaweed farming, apart from the circulated government reports. In addition, I could not verify some of the claims people made about the seaweed farming project because Coast Biological Limited, the company that had established the seaweed industry in Fiji, had withdrawn from the country and despite my requests, did not wish to be involved in the study. However, the limited information available from other sources helped shed some light on this case study.

Some officials, both in government and the private sector, were reluctant to be interviewed because of the nature of their work. For example, officials of the Fiji Development Bank (FDB) could not release information because of client confidentiality. Likewise, some senior Government officials felt they were bound by the Official Secrecy Act and could not comment freely on national fisheries development issues that were implemented whilst they were working with the Fisheries Division. These officials were reluctant to share with me their knowledge about the projects despite the fact that this study, with their contribution, could contribute to making future project implementation more successful. This was a sore point because it meant that lessons that could be learned from people who were directly involved in development projects cannot be used. The situation was worse because the fishers and villagers seldom kept regular written records of their activities and instead mostly relied on their memories. People in rural areas remembered the odd and special events and happenings and were often not aware of the regular patterns of many of their activities. The results of their activities were often surprising when these were systematically recorded (Ravuvu 1988b:181). To address this problem,

observations and a number of group meetings were organised to crosscheck the individual responses.

In all of the research sites, the local people's permission was sought (Walsh 1995:12). Once approval was granted, I would then present the *sevusevu*, which is a traditional ritual involving the presentation of *yaqona* (*Piper methysticum*) by visitors to greet the hosts and publicise one's arrival in a place, show respect and ask for formal blessing and acceptance. I observed this ritual at all meeting sites, whether these were in villages, offices, on wharves, in markets or homes. The reasons for the research were then explained to the respondents before the actual interviews were conducted. In the villages, the research assistants and I were careful to avoid village politics. We tried to collect information provided by people of all ranks and positions. We were also cautious of the multiple meanings of an act that was directly observed (Plange 1996:63).

Two research assistants were engaged during the preliminary research, while three others were involved at different stages of the actual fieldwork. These assistants helped to identify the people who were involved in the different case study projects. The main research assistant, a Fisheries Officer on study leave at the time, accompanied me in Viti Levu. This assistant knew of the case study projects and assisted me in gathering data on the people who were involved in the study. In areas outside Viti Levu, local people were recruited according to their knowledge of the case study projects. The research assistants also helped with the interviews, which gave me time to observe and gather background information from the rest of the community.

The interviews were semistructured, focussing on guiding questions, which were altered as the interview progressed. Although the questions were predetermined, there was no particular order in which they were asked. Some questions were repeated to validate the responses while there were occasions when sections of the interview schedule were ignored because we had prior knowledge of the responses or the interviewees had covered these points in their responses to other questions.

The choice of conducting in depth semistructured interviews, involving many of the people who had been involved in the projects in different areas, was based on my personal experience and the supporting arguments from other scholars. My previous experience conducting research with fishers and villagers convinced me that this approach was more appropriate. My personal participation in these interviews helped me to better understand the fishers' position. I found this approach more meaningful than large amounts of purely statistical data obtained through research conducted by formal questionnaires.

For the study, a total of 133 in depth semistructured interviews and group interviews were conducted. These included 53 interviews with fishing boat owners and group representatives and 46 with seaweed farmers. The remaining 34 interviews and group meetings were with government officials and other interested people who were knowledgeable about the projects. These interviewees included officials from the FDB and the major donors and development agencies such as AusAID, the Japanese Embassy, the New Zealand Embassy, the Japan International Cooperation Agency (JICA), the Canada Fund and the World Wildlife Fund (WWF). The interviews with government officials and other interested people provided added insights into the two case studies. The sample was adequate to provide the necessary information for the level of accuracy required.

Group interviews were organised on five occasions. All of these meetings were in areas where the projects were communally owned. In these meetings, it was noted that particular individuals often dominated the discussions. To get around this problem, some of the people were questioned privately. The results of the interviews were recorded in labelled and numbered questionnaire schedules.

#### **4.5.2. Data analysis**

Government reports and documents (where available) were analysed to highlight government plans, objectives and strategies. The analysis also considered the role of institutions, an issue that is important for rural

development, given the nature of rural development initiatives, and the demands of the changes that are being promoted under these.

Financial analysis was used to demonstrate the costs and benefits of the development projects. The analysis, which was conducted only on the boat building project because of the lack of data on the seaweed farming project (see Appendix 2), assessed whether the decision to participate in the project was economically efficient and whether all the important aspects had been properly valued (Weimer and Vining 1989:239). In addition, the analysis allowed assessment on the viability or otherwise of a set of economic variables. Unfortunately the lack of data negated the use of cost benefit analysis, which is a much better method of evaluating the tangible socioeconomic costs and benefits of a project, and of validating judgements.

The social analysis (see Chapter 3) was important because it put people, their capacities, values and needs at the centre of the development process (ODA 1995:2), particularly important for rural development. One of the main considerations of the study was to find out the needs of the people and whether the project designs based on rural development theories are suitable (ODA 1995:3). The discussions in Chapters 8 and 9 elaborate this point.

The evaluation of the case studies highlighted the problems that influence the outcomes of fisheries development projects. These results were combined with knowledge gained from the observations and the data from government officials, the private sector and representatives of development agencies, to draw up a list of problems that influenced the outcome of the fisheries development projects.

#### **4.5.3 Limitations of methodology**

As time was limited, it was inevitable that the respondents' usual patterns of activity were interrupted for the interviews. In the main centres, the wharf was the venue for the interviews, and this disrupted each fisher's routine of offloading their catch, arranging markets and repairs or loading ice and supplies. The length of the interviews was a concern but the nature of the study required that level of detail. The problems were similar to those



mentioned by Clarke (1971:206), Lal and Slatter (1982) and Walsh (1995:12-3).

The biggest problem faced was the lack of official data on both the projects from the Fisheries Division and other sources such as the development agencies and the companies that were involved. There were no project papers or figures stating the objectives, the costs and other main features of the projects. In addition, the people involved in the projects kept very few records. This made the research much more challenging. As a result, I tried to use whatever piece of official data I found to substantiate my arguments. In addition, there were a lot more cross checking and data validation.

In the villages, we had to work quickly to get accepted into the village routine, again to minimise the disruptions of our stay (Clarke 1971:206). This was not easy, because our presence was a disruption in itself. It was also difficult for the villagers to relate their experiences freely to us because we were from outside their communities and the discussions were about a less than satisfactory life experience that may have been embarrassing to the interviewee and their kin and village groups. There was the need for us to establish rapport, to allow us to pose probing questions, which covered sensitive issues, attitudes, values and beliefs.

To facilitate our acceptance by the people, we arranged our village trips through either the Fiji Fisheries Division or local government officials. These people have their contacts in the villages, such as the village headman, or fishers who were able to get us acquainted much faster. The *yaqona* drinking sessions were great informal forums for data gathering from those who were either too busy at other times of the day or unable to talk publicly.

Lastly, although the study produced useful information, the findings of the research should not be generalised to apply to other groups without far more study, even though the patterns may be applicable at this stage (Walsh 1995:60). These findings remain particular to this study until they are confirmed through other follow-up studies.

#### 4.5.4 The study sites

The areas covered in this study were chosen using a purposive sampling method to represent different parts of Fiji as much as possible (Denscombe 1998:15). The choice of study locations was ultimately influenced by the people's involvement in the case study projects, logistics and the cost of research in different areas (Walsh 1995:59). Some of the areas such as the Lau group and Rotuma were inaccessible given the irregular shipping services.

The study sites for the boat building project and the seaweed farming project are presented in Figure 4.2. The sites represented the main socioeconomic conditions that influence the performance of the case study projects. For example, Kiuva is an ideally located rural village close to the main urban centres of Nausori and Suva in Viti Levu while Somosomo in Gau is far away in the outer islands. On the other hand, Lautoka and Labasa are urban centres that offer easy access to the markets and other infrastructure that enhance fisheries development while Kadavu and Lomaiviti are predominantly rural. The study in Ba is interesting in that none of the 52 boats there was of the FAO-designed 28-foot type involved in this study. The situation in Ba raised interesting questions about the reasons why the FAO-designed boats were not used by the commercial fishers there.



## 4.6 Conclusion

This chapter summarises the choices and methods that were used to gather and assess the required data. The evaluation was difficult, given the poor records people kept. However, the study provided sufficient information to enable the identification of the problems that determined the outcomes of the fisheries development projects. These problems reflected the socioeconomic conditions in Fiji and the importance of sociocultural factors in influencing the outcome of rural development activities such as fisheries. These factors should be better addressed if development projects are to be more successful and satisfying to the people involved and to society in general. Despite its shortcomings, the study has yielded important information that should foster better quality evaluation of fisheries development projects. It also highlights the problems that influence fisheries development projects in Fiji. The study could also form the basis for similar research in Fiji in the future, as well as in other countries where similar conditions prevail.

## **5. Fisheries development in the Pacific Islands and Fiji**

### **5.1 Introduction**

Fisheries development is a cornerstone of government rural development policies and strategies in the Pacific Islands. Fishing is fundamental to all coastal communities and often is one of the most important commercial activities undertaken by local people. However, problems, including the failure of fisheries development projects have been encountered when government policies and plans are translated into development initiatives (Joint Fishery Strategy Mission 1988:15). The poor results of many of the fisheries development initiatives undertaken indicate the magnitude of the work required to undertake more successful fisheries development projects.

Fisheries development is more complex than merely providing financial support and technology to encourage people to fish commercially. Although it is widely known that people's needs should be the basis of development initiatives, other factors such as dominant external influences, the application of irrelevant development approaches, poor planning and political motives have compromised these endeavours. External influences include any input that does not involve local communities. Thus, included under these are the plans and strategies designed by government and development agencies. In the meantime, the application of irrelevant development approaches is associated with policies and plans that are not suited to the conditions in rural areas, because of poor planning or political motives.

This chapter analyses fisheries development objectives and strategies and relates them to fisheries development projects in the Pacific Islands and in particular, Fiji. The analysis highlights the influence of dominant rural development approaches at different times, and the problems such development initiatives have encountered.

## 5.2 Fisheries development in the Pacific Islands

The development of rural communities and the involvement of the people in commercial fishing provide welcome opportunities for coastal people in many Pacific Islands countries. Fisheries developments can contribute to the goal of distributing the benefits of development to people in rural areas. However, the benefits of such development have rarely flowed to coastal communities, although the intention was that this should happen. Thus, improvements in the performance of fisheries development projects are required to address these problems.

The development of commercial fisheries has been the target of all Pacific Island governments trying to provide income-earning opportunities in the villages to alleviate rural poverty (Shepard and Clark 1984:8; Lindley 1999:21). Most of these efforts have focused on inshore resources because these are easily accessible and important to the local people. Many such ventures have been inefficient and heavily subsidised and have been undertaken without information and understanding of the limits of the resource to support increased production (Preston 1997:23). These operations have been uneconomic and have hindered the involvement of the private sector due to unfair competition.

Fisheries development throughout the Pacific Islands has occurred at two levels: those which aim to transform subsistence fishing to small-scale commercial (artisanal) fishing; and those that aim to convert artisanal fishing to commercial and industrial fishing. Features of fisheries development have involved:

- surveys of the resources of the outer reefs, shelf areas and surface waters beyond the reefs, coupled with the development of appropriate fishing techniques for efficient harvesting
- design and construction of suitable vessels capable of fishing safely beyond the reefs
- training fishermen in the use of larger vessels and new fishing techniques
- development of grant and loan arrangements to permit fishermen to acquire larger vessels, equipment and fishing gear
- establishment of stores to sell fishing supplies at cost

- relief of fishermen from duties and taxes on imported fuel and fishing supplies
- provision of vessel and equipment repair facilities
- provision of infrastructure for collecting, preserving and storing fish at the harvesting sites
- arrangements for transport of products to markets
- arrangements for storing and marketing fish in urban areas

(Shepard and Clark 1984:8).

Most of these development activities are consistent with the modernisation approach. The emphasis on economic development was evident in the promotion of commercial fishing operations, as the following objectives show. The aspiration to expand capacity through the improvement of gear and infrastructure is consistent with modernisation strategies that are aimed at transforming traditional methods into modern fishing practices. Fisheries development equates with the improvement in capacity, facilities and infrastructure that will facilitate the maximisation of income, which has become a crucial feature of modernisation. People need money to use better equipment so as to allow them to maximise their productive capacity and consequently their income.

The most common fisheries development objectives in the Pacific Islands include:

- increased production
- expanded and improved technical capability
- improved marketing
- increased participation of nationals and income earning capacity
- improved recognition of needs for management of resources

(Munro and Fakahau 1993b:68).

These objectives have emphasised the maximisation of income from the fisheries sector and the involvement of all coastal communities in commercial fisheries development. From the early days, it has been accepted that resource management is a necessary requirement of fisheries development projects. Again, fisheries development is equated with an increase in fishing

capacity, income earning effort and the improvement of profitability. These factors resulted in the preference for contemporary changes that were assumed to be better than traditional arrangements and to provide the answers for all development problems.

The main problems that have hindered fisheries development include:

- the high cost of providing infrastructure in outlying islands
- the high cost of fuel and spare parts
- difficulties in maintaining fish holding facilities
- high costs of transportation to urban markets
- irregularities in supply of fish
- lack of markets for certain species
- variable quality of catch
- increased fishing pressure on heavily exploited inner reef and lagoon resources
- shortage of trained administrators and extension workers

(Shepard and Clark 1984:15; Lindley 1999:22).

Most of these problems are related to the high costs of fulfilling the desires to maximise production and to involve as many people in rural communities as possible in commercial fisheries activities.

Commercial fishing is a delicate development that requires certain preconditions. Like development, it just cannot be superficially attained through the provision of certain conditions. As has often been shown, even where government has provided the facilities, commercial fishing has not taken off because the people were not ready for the regimental labour requirements that commercial fishing demands in order to provide regular supplies of suitable quality catches.

The importance of fisheries to economic and rural development in the Pacific Islands is clearly evident in the development projects that have been undertaken. For instance, various government-funded fish collection schemes were established to boost the involvement of the rural communities in economic activities in Papua New Guinea, Vanuatu and the Solomon Islands. The fish collection programmes have 'joint aims of seeking to conserve resources in areas that are already heavily exploited and of providing



opportunities for earning cash in areas where such opportunities are rare' (Joint Fisheries Strategy Mission 1988:5). However, all of these attempts have been economic failures that also resulted in the depletion of fisheries resources because they were poorly controlled and managed. These schemes were quickly formulated, poorly planned and implemented with the pretext that there were no limits to fisheries resources.

These developments also did not consider whether the people were ready for this type of project, which required Westernised work routines that were incompatible with the life of the traditional villages in which the majority of the local people live. There was also little concern about whether the necessary infrastructure was in place, as the belief was strong that the infrastructure could easily be put in place through decentralisation (Shepard and Clark 1984:11; Rodman 1989; David 1990; Preston 1997). The developments also assumed that the people want to be involved in these contemporary fishing operations and that they have the resources to be meaningfully involved. Experiences have shown just how inadequate these assumptions have been.

Most fisheries development schemes in the region have been financed by foreign aid channelled through governments (Munro and Fakahau 1993b:68) (see Tables 2.3 and 5.2). These schemes have aimed to increase fishing effort and profits to the rural communities. The main areas where foreign aid has been used include the artisanal and rural fisheries, where extensive training has been required, together with research and feasibility studies. Aquaculture programmes have attracted increasing attention but have not been commercially successful. For example, the intensive milkfish culture undertaken in Kiribati, as bait for tuna fishing boats and food for the local people, has not been successful, despite extensive external funding and the provision of foreign expertise. Like most other aquaculture projects in the region, the chances of such an operation becoming economically viable have not been rigorously assessed.

For development projects to achieve their desired result, it is necessary that the risk of failure is minimised, objectives are appropriately formulated, development is holistically addressed and that planning practices are incorporated in the process from the beginning (Carleton 1983:4-6).

Minimising the risk of failure is a major challenge because of the association of fisheries development projects with rural development initiatives. Fisheries development and rural development are complementary but can also be conflicting if they are not carefully implemented, particularly if they are hurried because they are being used for political mileage. Rural development has a wider focus, which has to be available to as many people as possible, while fisheries development needs to be cautiously implemented if they are to be successful and contribute to rural development. Moreover, rural development planners have been over ambitious with their forecasts and projections and their use of unrealistic data and models. The inexperience of the local people involved in the development activities and the poorly developed and inadequate infrastructure have made the challenge even more daunting. The development objectives should be consistent at the local and national levels. The formulation of objectives depends on the social and political ambitions and aspiration of the government and its people and the available resources.

After studying fisheries development in a number of Pacific Islands, Munro and Fakahau (1993a:69) argued that it is counterproductive to regard the sociocultural conditions in an area as problems that hinder development. Instead these conditions should be accepted as part of the reality within which the development work should be conducted. Fisheries development should therefore be tailor-made for the socioeconomic conditions and not the other way around. According to these advisers, to ignore the socioeconomic conditions is to invite problems such as the pursuit of different and sometimes contradictory objectives by the developers and the local people. Rodman (1989:6-7) described similar situations in Vanuatu while Halapua (1982:65) mentioned comparable happenings in Tonga.

The main fisheries development issues that have been identified by a range of researchers in the Pacific Islands can be grouped in the following categories (Table 5.1). These are: successful fisheries development, fisheries resource management, appropriate fishing technology, importance of fish and fishing income, marketing and distribution systems, uncertainty of resources, loss of traditional management, difficulties of conducting fisheries assessments, and changes in environmental conditions, pollution and the pressures of land-

based activities. These issues apply to different aspects of fisheries development generally rather than fisheries development projects in particular.

Successful fisheries development refers to the issues relating to the problems of fisheries development and how these can be addressed. Similarly, the research into fisheries management explores measures to ensure that fisheries resources are managed properly and that exploitation levels are within sustainable levels. Related to this is the concern that appropriate fishing methods and technology are used. The use of modern technology has increased people's capacity and productivity but has placed increasing pressure on the fisheries resources. In the meantime, the importance of fish and fishing income is related to the dependence of these predominantly coastal communities on ocean resources.

Fisheries development is potentially sustainable. However, if that is to occur, it is critical that the fisheries harvest rate is lower than the growth rate in any fishstock. The increased demand on most tropical fisheries is likely to put pressure on the capacity of local fish stocks to cope. Unfortunately, there is currently no systematic way of introducing fisheries development and development projects. Instead the modernisation of society has given coastal communities the capability and the technology to overexploit their resources, as the people are driven by the search for cash (Veitayaki and South 1993). This has a marked impact on the resources and the marine environment (Jennings and Polunin 1996b, 1997). Given the people's increased capacity to catch fish and their poor knowledge of the fisheries stocks, it is difficult to determine what level of fisheries exploitation is actually sustainable.

The uncertain nature of fisheries resources has implications for fisheries development. At present, there is increasing interest in conducting resource assessment so as to enhance decision-making. The solution to many of the questions related to fisheries resources lies in research, for which most of the countries have inadequate capacity or funds. To make matters worse, the resources in the tropics are more diverse and complicated. In many of the countries, research capacity is poor and there is increasing recognition of the need to meet this challenge better. Lastly, and related to the uncertainty of the resources, are the changes in environmental conditions due to pollution and

the pressures of land-based activities. These issues are consistent with the policies that emphasise the development of fisheries to maximise the earnings and income from the sector.

**Table 5.1 Major fisheries development issues in the Pacific Islands.**

Issue	Sources
Fisheries development	Sidarto and Atmowasono 1977; Lawson 1980; Zann 1981; Carleton 1983; Christy 1986; Delana <i>et al.</i> 1988; Johannes 1989; David 1990; Liew 1990; Dolman 1990; Munro and Fakahau 1993a; Kane <i>et al.</i> 1996; Garcia <i>et al.</i> 1997; Doulman 1990, 1999; Lindley 1999
Fisheries resource management	Couper 1973; Christy 1977; Johannes 1978, 1981; Cushing 1979; Kent 1980a; Craven 1982; Kearney 1982; 1985; Iwakiri 1983; Commonwealth Secretariat 1984; Sibert 1986; Teiwaki 1988; Rogers 1991; Johannes and MacFarlane 1991; Hviding 1994; Hviding 1997; Preston 1997
Appropriate fishing technology	Gulland 1977; 1982; Uwate and Kunatuba 1984; Tisdell 1986; South 1993a; FAO 1995, 1996
Importance of fish and fishing income	FAO 1968; Bell 1978; May 1980; Schuh 1981; Dossier 1984; Rodman 1989; Weber 1995
Marketing and the distribution systems	Halapua 1982; Lal and Slatter 1982; Carleton 1983; Schoeffel 1985; David and Cillaurren 1992; Bidessi 1994; Slatter 1994a, 1994b
Uncertainty of the resource, stocks and sustainable yields	Burd 1974; Harden-Jones 1974; Kearney 1982, 1985; Lewis <i>et al.</i> 1983; Ingram 1987; Greenpeace 1993; Veitayaki and South 1993; Richards 1994; Kailola 1995a; Weber 1995; Jennings and Polunin 1997
Difficulties of conducting resource assessments	Munro and Williams 1985; South and Kasahara 1992; Munro and Fakahau 1993a, 1993b
Changes in environmental conditions, pollution and the pressures of land-based activities	Morrison and Brodie 1985; Kelleher 1992; Veitayaki 1994

Source: Veitayaki, 1997. Research data

The problems of fisheries development projects in the Pacific Islands appear to be largely due to project design and implementation (Lawson 1980; Carleton 1983; Johannes 1989; Liew 1990; Dolman 1990; Munro and Fakahau 1993a; Kane *et al.* 1996). Most project frameworks have, however, emphasised the economic requirements and disregarded the sociopolitical and cultural backgrounds into which the projects are introduced. Experiences in the Pacific Islands have shown that to succeed, rural development projects need to accommodate the social, cultural and political conditions that exist in a given location. As discussed and demonstrated in this thesis, successful fisheries development projects require both appropriate project design and carefully chosen people.

### 5.3 Fisheries development in Fiji

Fisheries development in Fiji is conducted at five different levels. These include:

- the predominantly tuna and export-oriented industrial fisheries
- capital intensive and tourist-based recreational fishing
- commercial and artisanal fisheries
- subsistence fisheries
- aquaculture.

The last three categories constitute the inshore fisheries occurring in the coastal areas and extending to the slopes of the barrier reefs. For this study, they are the main focus. The industrial sector and recreational fisheries, both of which are associated with high capital inputs and involve multinational companies, do not directly involve local communities and rural development and therefore are beyond the scope of this study.

The commercial exploitation of fisheries resources in Fiji began in 1813 with the *bêche-de-mer* trade by European traders, which reached an initial peak in the early 1830s and a second in the 1840s (Narayan 1984:15). By the 1850s, the *bêche-de-mer* fisheries resources had become depleted (Ward 1972:102). Thereafter, there was minimal commercial fisheries development until the recent past.

Indigenous Fijians were described as people with few and simple wants, whose fish needs were met with minimum effort, and to whom money was not an incentive (Hornell 1940:2). However, the changes that occurred afterwards in fisheries demonstrated the deliberate penetration of the traditional system by the external system associated with underdevelopment and dependency that accompanied colonisation.

The Fiji Fisheries Division, established in 1968, was charged with the responsibility of developing and managing all of the fisheries resources. The work of the Division involved the formulation of plans for fisheries development in all the sectors, monitoring of ongoing programmes and the provision of pragmatic solutions to development problems that were experienced in all of

the sectors. The Division was responsible for the development of fisheries programmes, training and marketing.

By the 1980s, the transformation of the local system had resulted in the involvement in artisanal fisheries of both indigenous Fijian and Indo Fijian fishers. Indigenous Fijians would fish whenever they needed cash, whilst the Indo Fijians would fish over weekends or outside the cane or rice planting and harvesting seasons to supplement their income (Szabo and Herman 1984). Today, the transformation is complete, with full-time fishers and fishing businesses, which have fishing licenses to trade in fisheries products.

The fisheries development projects undertaken in Fiji from 1978 up to 1988 illustrate the type of development projects that have been undertaken and the significance of development assistance (Table 5.2). Japan was the largest donor, funding development totalling approximately US\$1.5 million compared to the US\$0.85 million funded by Australia and the US\$0.29 million by the United States. The largest amount of assistance (over US\$1.6 million) went into the institutional and infrastructural development of the Fisheries Division. The Fisheries Division needed the facilities and capacity to handle the development work that it was undertaking. Approximately US\$752,000 was spent on equipment needed for new projects and activities. Around US\$178,000 was devoted to training activities while approximately US\$140,000 was for development projects. Of the specific sectors, the inshore fisheries was allocated approximately US\$0.92 million compared to a meagre US\$10,500 allocated for aquaculture.

**Table 5.2 Fisheries assistance to Fiji from 1978 to 1988.**

Project Type	Total Funding US\$	Donor
<b>Institution and Infrastructure</b>		
Lecture Theatre and Upgrade of Training Hostel	103,000	Japan
Replacement Tools for Boatshed	34,000	Japan
Upgrade of Shore to Sea Communication Room	17,000	Japan
Upgrade of Licensing and Surveillance	7,000	Japan
Upgrade of Smaller Extension Stations	345,000	Japan
High-power Chromoscope and Satellite Navigation	5,000	Japan
Reorganisation of Engineering and Refrigeration Sections	28,000	Japan
FAD Deployment and Monitoring		Japan
Building of Multipurpose Boat, Training Course for Fishermen	207,000	Japan
Upgrade of Major ports in Lami and Labasa	690,000	AIDAB
Upgrade of Fisheries Storeroom	70,000	AIDAB
3 Simple Fish markets	41,000	USAID
<b>Equipment</b>		
Upgrade Lathe Room	28,000	Japan
Supply of Engines and Gear for RFTP	345,000	Japan
Ice boxes to Improve Rural Fish Handling	34,000	Japan
Upgrade of Gear on New 28-footers	21,000	Japan
Small Outboard-Powered Boats to Assist Fish Wardens	14,000	Japan
3 Law Enforcement Vessels	41,000	
Fisheries 30-foot Service Vessel	21,000	Australia
Mobile Hoist for Boatshed	28,000	Australia
Replacement of Extension and Collection Vessels	41,000	Australia
Database Setup		USAID
Computer System for Satellite Imagery Processing		USAID
Computer Replacements for Market Survey		USAID
Upgrade Graphics and Printing Facilities	7,000	USAID
Revolving Fund Commercial Gear Sales Section	103,000	USAID
10 Replacement Vehicles	69,000	Korea
<b>Training and Research</b>		
Prawn Feed-Formulation		Japan
Aquaculture Demonstration Ponds		Japan
Rural Aquaculture Extension		USAID
Legal Advice on Revision of Fisheries Act	7,000	FAO
Assistance on Mapping Traditional Fishing Grounds	21,000	FAO
Training in Export Inspection and Fish Smoking Methods	7,000	FAO
Subsistence Survey	10,000	FAO
Feasibility and Design of Multipurpose Boat	28,000	FAO
Freshwater Fishery Dredging Impact		FAO
Rural Aquaculture Manuals in Hindi and Fijian		FAO/UNDP
Publication of Updated Resource Profiles	2,000	NZ
Rural-sector Training Follow Up	7,000	SPC
3 Mobile Workshops	62,000	
Surveys on Marine Resources	7,000	SPREP
Coral Exploitation Impact	10,000	SPREP
Feasibility for Marine Reserves	10,000	UNDP
Assessment of Fiji Aquaculture	7,000	ADB
<b>Development Projects</b>		
Dredging of Wainibokasi River	34,000	Japan
Raviravi Prawn Farm Extension	3,500	FAO
Seaweed Development in Eastern Division		NZ
Fund for Fuel Subsidy to Fishermen	69,000	
Upgrade Tools for all Engineering Sections	34,000	
Mariculture Centre on Makogai		ACIAR

**Source:** Adapted from Joint Fishery Strategy Mission, 1988. Opportunity for Fisheries Development Assistance in the South Pacific: a regional mission undertaken by Forum Fisheries Agency (FFA), SPC, UNDP, FAO, USAID and BDDP. Volumes 1 and 2: Annex 1 3.3 (unpublished)

Most of the developments undertaken within the inshore sector have been related to improvement of fishing and processing technology associated with modernisation. The largest single investments have gone into the provision of engines and gear (US\$345,000); and the building of multipurpose fishing boats and the training of fishermen (US\$207,000). This project is one of the case studies. Other developments, such as the upgrading of the ports in Lami and Labasa (US\$690,000), the smaller extension stations (US\$345,000), the lecture theatre and training hostel (US\$103,000) and the revolving fund for commercial gear sales (US\$103,000), have been directed at improving fishing and processing technology and the production of new commodities in accordance with modernisation approaches.

Despite the variety of aquaculture projects, most have been experimental. *Tilapia*, the most successfully farmed species, has been used predominantly for subsistence. Grass carp have been released into some of the river systems as a weed control. Japanese aid has assisted in the experimental freshwater prawn culture programme, while the French Government was involved in the culture of *Monodon* prawns. At sea, a private Japanese enterprise operated pearl culture farms in different parts of the country. The Fiji Government has operated the pilot giant clam hatchery at Makogai, while attempts to culture edible oysters and mussels have been unsuccessful. The lack of emphasis on aquaculture and resource management was evident given the type of fisheries development assistance received in Fiji. The fisheries development assistance provided through the Canada Fund between 1989 and 1993 further illustrates the type of rural fisheries development activities that were supported during this time (Table 5.3). This assistance included the purchase of equipment and the extension of fishing capacity, approaches which were based on the belief that better equipment would allow people to increase production. It was assumed that this would be good for the community. This was never proven and could be done through monitoring and evaluation to ensure that the stated objectives were followed and that communities and groups achieved their ultimate goal to improve their living conditions.



**Table 5.3 Canadian Government-aided fisheries projects, 1989–1993.**

Recipients	Date	Agency	Assistance	Value (Cnd \$)
Veitamani Fishing Scheme	1988-89	Fiji Government		3,000
Berenado Brothers Fishing Project	1989-90	Fiji Government	Motor, fishing equipment	2,417.70
Qacoya Fishing Scheme	1989-90	Fiji Government	Motor, fishing equipment	6,344.39
Delai Fishing Scheme	1989-90	Fiji Government	Motor, fishing equipment	7,501.24
Tokatoka Fishing Scheme	1989-90	Fiji Government	Motor, fishing equipment	3,974.08
Naulana Fishing Project	1989-90	Fiji Government	Boat, fishing equipment	3,396.17
Muanacula Fishing Project	1989-90	Fiji Government	Boat, fishing equipment	5,142.81
Naigani Fishing Project	1989-90	Fiji Government	Motor for punt	1,905.87
Naburerada Fishing Scheme	1989-90	Fiji Government		5,300
Motukilui Fishing Scheme	1989-90	Fiji Government		25,238
Tokatoka Gauna Fishing Scheme	1989-90	Fiji Government		3,643.90
Rauriko Fishing	1990-91	Fiji Government	FAO-designed fishing boat	10,722.92
Ogea Fishing Scheme	1990-91	Fiji Government	Improve fishing	10,152.34
Nabouono Boat Project	1990-91	Fiji Government	Improve fishing and transport	18,987.86
Naqara Fishing Project	1990-91	Fiji Government	Improve fishing and transport	14,041.83
Naivi Fishing	1990-91	Fiji Government	Improve fishing	11,081.63
Takalai Fishing	1990-91	Fiji Government	Improve storage	2,648.24
Ghetto Fishing	1990-91	Fiji Government	Improve fishing	13,626.78
Naivaka Fishing	1990-91	Fiji Government	Improve fishing	24,072.48
Duavata Fishing Scheme	1991-92	Fiji Government	Fishing gear	5,367.29
Yaro Fishing Scheme	1991-92	Fiji Government	Boat to extend fishing capacity	11,913.19
Vanuavatu Fishing Scheme	1991-92	Fiji Government	Boat to extend fishing capacity	12,217.54
Mataka Youth Fishing Scheme	1991-92	Fiji Government	Boat and fridge	3,702.28
Mataqali Naki Fishing Project	1991-92	Fiji Government	Boat to generate income	4,861.46
Levy Brothers Fishing Project*	1992-93	Fiji Government	FAO-designed fishing boat.	4,039.38

\* Involved in the study

**Source:** Veitayaki, 1998. Field data based on information from Canada Fund Office, Fiji

Fiji is presently self-sufficient in fish. The country earns F\$66.54 million per year from its export of fisheries products. This was 2.8 per cent of the GDP in 1995 (Fiji, Ministry of Agriculture, Fisheries and Forests 1995). However, the development of infrastructure and capacity that has been emphasised since independence is resulting in a continued increase in the exploitation of inshore resources. Unfortunately, the consequences of this success have been felt in many of the main fishing areas, where there are definite signs of overexploited fisheries (Kailola 1995b:63; Pita 1996:7; Jennings and Polunin 1996b, 1997). The objectives of the fisheries sector have changed little although there is now a stronger emphasis on sustainable fisheries development.

### 5.3.1 Fisheries development programmes

Since independence, the Fisheries Division has followed five-year development plans corresponding to the national plans for the fisheries sector prepared by the Central Planning Office. The plans emphasised the development of small-scale artisanal fishery through the introduction of new motorised fishing boats, improved fishing gear and methods, processing of traditional export items, establishment of marketing and transportation systems, ice-making and cold storage plants and improvement of landing and berthing facilities in the main fishing centres (Fiji, Central Planning Office 1970, 1975, 1980, 1985). These initiatives were consistent with the modernisation approach to rural development and the drive to maximise the exploitation of natural resources such as fisheries. During these earlier years, there was little emphasis on fisheries resource management or sustainable fisheries development, illustrating the belief in the unlimited nature of the resources (Fairbairn 1990:260; Preston 1997:23).

During Development Plan 8 (DP 8, 1981–85), the thrust of Government policy was to encourage fisheries development both for subsistence and commercial purposes. The objectives emphasised the production of fish as a source of protein and the creation of employment and incomes, particularly in rural areas. The Fisheries Division pursued four Development Programmes during this period. Three of these programmes, the Rural Fisheries Development Programme, the Commercial Artisanal Fisheries Programme and the Rural Fish Farming Project, were significant for this study. All of the three programmes were externally funded and focussed on modernising the sector and improving the infrastructure and capacity through the use of decentralisation strategies. For instance, the boat building component of the Rural Fisheries Development Programme was to provide suitably equipped, low cost fishing vessels to selected rural communities. As with similar modernisation initiatives, the outcome was disappointing, with catches that were below expectations (Fiji, Central Planning Office 1985:69). Even the attempt to boost commercial production and stimulate economic development did not eventuate as people returned to their original activities after spending some time with the ventures.

As is common in these circumstances, under modernisation, the local people were blamed for the failures. Reasons identified for failure included a lack of people's desire to change from traditional techniques, lack of people's commitment to commercial operations and business acumen, the lack of fish collection and marketing arrangements, lack of maintenance, and poor equipment (Fiji, Central Planning Office 1985:70). Consequently, training and basic facilities valued at around F\$1.8m were provided to enhance production and marketing.

During Fiji's Ninth Development Plan (DP 9, 1986–90), the national objectives of the fisheries sector were to:

- generate further employment opportunities in the exploitation and processing of marine resources
- increase production to satisfy local demand for fish and other marine products
- increase the value-added in fish production for exports
- regulate and control the exploitation of fin and nonfin fishery products.

To pursue these objectives, the Fisheries Division again promoted the same fisheries programmes. The Rural Fisheries Development Programme was to:

- promote the development of the fisheries potential in the remote regions of the country
- provide basic protein sources for local communities
- create further opportunities for employment and income generation
- integrate rural communities into the formal sector of the economy.

The Commercial Artisanal Fisheries Development Programme, on the other hand, was to:

- provide suitable fishing vessels to commercial fishermen to enable them to fish around the reefs in areas more distant from larger urban centres
- ensure adequate ice supply and storage, improve markets, fishing gear and equipment
- provide technical assistance and training, facilitate credit and provide berthing and slipping facilities.

Lastly, the Rural Aquaculture Extension Programme was to:

- provide an alternative protein source for the inland population

- release grass carp into rivers and waterways throughout Fiji as a biological control measure for introduced water weeds
- provide fish fry to fish farmers as part of government support
- promote fish farming as a viable business and a source of employment in the rural sector
- provide training to fish farmers.

These programmes have objectives that were consistent with the overall aim of rural development (Fiji, Central Planning Office 1980:225, 1985:302). They favoured modernisation and decentralisation through the development of infrastructure and extension services to rural areas. Thus, facilities for collection schemes, ice making plants and markets were provided, but the costs of maintaining these facilities were high. The main constraints for rural communities supplying urban and export markets included low and irregular production, lack of proper facilities (for storage, distribution, processing, marketing and service), shortage of trained technical personnel, lack of financing services and the absence of an effective fishers organisation (Szabo and Herman 1984:10).

Under the Rural Fisheries Development Programme, rural fisheries schemes and fisheries cooperatives were established in different parts of the country as part of the modernisation and rural development programmes (Szabo and Herman 1984:12; Veitayaki *et al.* 1996). People were offered training and encouraged to take up artisanal fishing with incentives. The programme allegedly resulted in higher commercial fisheries production and an increase in the number of launches and half-cabin launches (Nichols and Moore 1985). Commercial fisheries yield increased from 4,184 metric tonnes in 1981, to 5,860 metric tonnes in 1985, and 6,513 metric tonnes in 1990. The number of licensed fishermen increased from 1,283 in 1981, to 1,332 in 1985, to 1,966 in 1990 (Fiji, Ministry of Agriculture, Fisheries and Forests 1981; Fiji, Ministry of Primary Industries 1985, 1990).

A number of schemes, including the 'West' Hurricane Oscar Fisheries Rehabilitation Programme (Evening 1983), involved the collection of fisheries products by vessels or trucks from predetermined collection points for sale in the urban markets. These types of projects aimed to allow people in rural

areas to access bigger markets and higher prices in urban areas. In this way, it was assumed, the fishers would benefit and be able to improve their living conditions. The scheme was geared for the use of chilled fresh fish and was hampered by the high cost of producing ice from the project vessel. It was also slow and time-consuming. In addition, the inability to provide prompt payments was a problem which hindered people's fishing performances (Evening 1983:5). Overall, the project failed because it was not well planned.

Under the Commercial Artisanal Fisheries Development Programme, indigenous Fijians were encouraged to improve their fishing technology and gear through the Rural Fisheries Training Programme (RFTP) and follow-up extension courses. Interested people in rural areas were trained and enticed to take up commercial fishing. The introduction of Fish Aggregation Devices (FADs) was part of the initiative to promote tuna and offshore fishing while the boat building project that forms a case study here is related to this programme.

Under the Rural Aquaculture Extension Programme, the Fisheries Division promoted the culture of prawns, carp and seaweed in many coastal communities throughout the country. Most of these initiatives have shown that aquaculture can be technically feasible, providing food, employment and a source of income to the people involved. However, a great deal of work was needed to make these aquaculture activities economically viable. An example was the Raviravi Fish Farm, which was initiated as a joint Lands Department-Fisheries Division project to determine the potential of fish farming on reclaimed mangroves. Dense, low-cropped mangroves were cleared for the ponds. Up until 1978 various species, such as rabbit fish, mullet and milkfish, were tested at Raviravi. However, the project was abandoned due to the haphazard trial and error approach rather than a systematic well thought out strategy.

In 1981, fish farming activity in Raviravi was revived by the Fiji Government and a French Government-funded organisation, France Aquaculture. The joint venture investigated the feasibility of saltwater prawn (*Penaeus/ Monodon*) farming and established its potential for commercial production. Project development was planned in three phases, with the transition to the next phase dependent on the successful achievement of the preceding phase.

Although the production results from Phase I were encouraging, all the goals for that phase were not met, due to unforeseen problems such as acid sulphate conditions (Lal 1990:20). The project has been struggling ever since and continues to be underused despite all the technical inputs.

These difficulties, together with all the other problems faced in the implementation of these DP 8 fisheries development programmes, caused the Fisheries Division to revise its position on fisheries development towards the end of the DP 9 period. Fisheries development initiatives, like the Rural Fisheries Development Programme and the Commercial Artisanal Fisheries Development Programme, were channelled away from inshore fisheries towards offshore resources. Deepsea fishing techniques were promoted to facilitate people's movement offshore. However, these initiatives did not work because indigenous Fijians were not used to offshore fishing, which often meant staying away from home for extended periods; and they lacked equipment and expertise. In addition, there was the possibility of higher expense, lack of experience with deepsea fishing and greater emphasis on value-added products destined for the export markets.

None of these initiatives has been satisfactorily realised. Problems have included the failure of commercial and fisheries development, the inability to have viable commercial aquaculture, overexploited fisheries resources and the need for better processing and marketing infrastructure. For example, commercial fishing is still largely conducted in the customary fishing rights areas despite all the attempts to move the activity offshore (Nichols and Moore 1985). The Inside Demarcated Area (IDA) licences, for which the consent of the relevant customary marine tenure (CMT) area owners is required, made up most of the fishing licences offered annually between 1985 and 1997. The Outside Demarcated Area (ODA) licences offered during this time numbered only between 11 and 52 per cent of the IDA licences.

All the attempts to access offshore fisheries resources have been hindered by the lack of equipment, technique and incentives. Local markets are still dominated by inshore fish, while the fishers are unlikely to pursue offshore fish unless the prices are raised significantly to justify the extra investment and effort (Beeching 1993:44). Aquaculture has remained at an experimental stage

(Joint Fishery Strategy Mission 1988:Annex 1:2). There has been only one commercial freshwater prawn farm in Navua. The majority of the fish farms are for culturing *tilapia* (*Oreochromis nilotica*) which, although has become a main source of protein in schools and inland communities, is still not accepted at the local markets. Value-added is still in its early stages of development, although some locally smoked fish and jerky is being exported and also sold locally. Furthermore, the involvement of private enterprises in the marketing of fresh fish has resulted in major improvements in conditions, prices and quality. This development has been associated with the development in the shipping industry in Fiji, particularly the arrival of roll-on roll-off ferry services.

Government priorities in the 1990s placed more emphasis on the management and control of resources. The broad objectives of the development of Fiji's fisheries sector during this period have been to improve the quality and increase value-added exports and regulate and control all fisheries on the principles of optimum utilisation and long-term sustainability. In addition, there were aims to encourage the implementation of sound business management methods by cooperation between local fishermen, and devolve, as far as possible, government activities to the private sector. The emphasis on export and industrial fisheries has been consistent with the export-led growth models pursued in most developing countries at this time. The local fish market was ignored compared to the export outlets, despite its contribution to the local economy in feeding the population and in minimising imports. Government safeguarded the long-term sustainability of the fisheries resources through regulatory measures such as closed season and gear restrictions, which did not involve local communities who were passive observers to the management of their resources. In most cases, the management measures were instituted without any input from local communities who were expected to accept government regulations even though some of these may be culturally unacceptable. The banning of turtle harvest in Fiji is an example of a resource management method that was culturally naïve. Thus, the objectives of the fisheries sector in recent times have remained the same, except for the emphasis on sustainable fisheries development.

These objectives also reflect the importance of private sector involvement in fisheries development as promoted by international development agencies such as the World Bank and the ADB. During the project period in question, the fishing companies deployed FADs in Fiji's Exclusive Economic Zone (EEZ) while private companies operated the aquaculture development in Raviravi and Navua (prawn farming). Furthermore, seaweed farming, the second case study discussed here, was largely the result of interest undertaken by the private sector. In addition, the Fiji Trade and Investment Board (FTIB) administers a series of incentives for potential local investors interested in the development of resources outside the customary fishing areas. These involve fish farming and the collection, processing and marketing of resources that are being exploited (Richards *et al.* 1994).

The *National Environment Strategy* and other government planning documents that were formulated in the 1990s all emphasised resource management (Fiji 1993). The strategy, for instance, posed questions such as:

- whether it is necessary for the country to bear the cost of a degraded environment in order to attain material improvement
- whether there is a basic incompatibility between sound environmental and development policies
- whether sustainable economic growth requires the conservation of natural resources as the fundamental base for productive activity.

Government's position in relation to these questions is found in its *Policies and Strategies for Fiji in the Medium Term* (Government of the Republic of Fiji 1993). The fisheries policies and strategies emphasised:

- greater efficiency and improvement to the quality of fish available to consumers in the small-scale commercial fisheries sector
- assistance to rural indigenous fishers in their transition from subsistence to small-scale commercial fishing
- development of aquaculture through continued research into appropriate production technologies and extension programmes
- improvement in the quality and value of exports
- regulation and control of all fisheries on the principles of optimum utilisation and long-term sustainability



- encouragement of the implementation of sound business management methods by local fishermen, and improvement in the handling and processing of domestic fisheries.

These objectives are still related to the modernisation approach, which emphasises the transformation of the traditional system and the use of new fishing techniques to increase the income from the use of fisheries resources. However, by this time, other objectives that also promoted sustainable fisheries development were also appearing.

The aims of the 1993 *Policies and Strategies for Fiji in the Medium Term* were reiterated in Part XIV of the draft Sustainable Development Bill (Government of the Republic of Fiji 1997) relating to fisheries conservation and management. The Bill states as its purpose:

- the conservation and management of Fiji's fisheries in the interests of present and future generations
- the promotion of the broad application of a precautionary approach to the conservation, management and exploitation of marine resources in order to protect marine resources and preserve the marine environment
- the protection of fish habitats and the prevention of the pollution of waters frequented by fish
- conservation of fisheries and their management on a sustainable basis
- the participation of persons engaged in fishing at the domestic, subsistence or commercial levels in decisions regarding the conservation and management of fisheries

(Government of the Republic of Fiji 1993, 1997).

The change in emphasis and development approach in these policies reflected the interest in sustainable and locally determined development. These approaches still have to be formulated into programmes and projects, although some initiatives, such as the establishment of marine protected areas and the rehabilitation of coastal ecosystems such as mangrove forests, have been pursued by local communities in different parts of the country.

The fisheries subsector was allocated F\$5.53 million under the CDF (*Sunday Times* 1999). The main activities included brackish water culture (milkfish hatchery development), mariculture (hatchery and commercial resource development) 'supplements' such as mother of pearl (oysters), giant clams, sea cucumber, seaweed and trochus, aquaculture (tilapia, prawns and

ornamental fish), inshore fishery (research and development) and offshore fishery (industrial fishery). The wide range of activities most of which were still being researched by the Fisheries Division, were to be boosted with financial injection and large-scale implementation. The investment requirements were enormous but the returns were promised to be in multi-million dollar terms. This cavalier attitude was unlikely to work as proven by recent experiences.

For instance, the brackishwater culture required an investment of F\$471,000 in 1997 and F\$117,000 each for 1998 and 1999. This money was the operational cost of setting the infrastructure in Dreketi in Vanua Levu where the activity was based. The hatchery, which was to rely on wild stock reservoir along the Macuata coast, was expected to produce 30,000, 000 fries to be farmed as well as supplied to farmers. The project was to increase tuna and longline fishery income by between 10 and 150 per cent (F\$85–125million) in addition to the F\$10million for aquaculture, over 1,000 jobs created and millions of dollars for the national airline (MAFFA 1996:4). As with the bulk of the CDF projections, I am uncertain as to how the figures were calculated but it seemed they were preposterous. It was difficult to believe that such an attempt to transform research activity into a commercial operation can work successfully without accurate technical, human and financial feasibility studies.

By October 1999 and F\$1 million later, the project had failed. The reasons were that there were no feasibility studies made on basic information such as water quality, salinity, and soil types (*Fiji's Daily Post* 1999:2). In fact, if these studies were conducted properly no such project would have been undertaken and such a big amount of money would not have been wasted.

The fisheries development plans are indeed well suited to Fiji's current situation. The challenge however is to achieve the changes these plans are supposed to achieve. This has not been possible through the present implementation process because of the inherent problems associated with rural development initiatives. There is a need to ensure that the strategies and approaches reflect the realities that exist. Rural development is about local people who should be involved meaningfully in development activities. This is why it is critical that the problems of fisheries development projects are

understood and used to identify a better method of introducing development projects in the future.

### **5.3.2 Problems of fisheries development projects in Fiji**

The short life span of fisheries development projects in Fiji has illustrated the problems faced in the pursuit of government's rural development objectives, largely based on outdated development approaches. The brackish culture of the CDF for instance lasted for about two years before it was abandoned, the 20 ponds and development valued at over F\$1 million dollars all went down the drain. In this case, no feasibility studies were organised. These problems have implications about the manner in which the development projects are undertaken. The main problems are related to project planning, economic considerations, markets, environmental changes, complex sociocultural conditions, capacity building, institutional arrangements and lack of evaluation.

#### **5.3.2.1 Project planning**

Fisheries development planning in Fiji is impeded by the lack of data on fish stock and landing and marketing turnover (Szabo and Herman 1984). In addition, the limited number of qualified and skilled Fisheries Division staff and the lack of consultation between the relevant government departments have exacerbated the problem. For example, despite the substantial financial and technical input into the prawn culture project in Raviravi, there has been continued low production due to problems that had neither been foreseen nor planned. These problems included the growth of toxic mould on feed pellets, excessive acidity of water in some ponds, leakage through pond walls, predation by milkfish and birds, theft, and high mortality during transport (Shrimp Farming undated a:8; Lal 1990:18-9).

Fisheries development plans are hurriedly formulated to comply with funding periods or political reasons. In other instances, wrong assumptions are made which results in inappropriate development practice. With the milkfish culture project, for instance, it was assumed that the Fisheries Division staff and the others would be able to cope with the work. It was also assumed that the milkfish would grow in the 2,000 and 5,000 square metre pond areas and that the fishing boats would purchase their bait from the project. As was the case in

Kiribati, the externally driven milkfish projects did not consider the local situation and despite huge financial inputs, failed.

### **5.3.2.2 Association with rural development**

Although fisheries are important to rural development in the Pacific Islands, problems have often resulted when fisheries developments are promoted as rural development initiatives. These difficulties arose because rural development that is pursued by a number of different ministries promoted the involvement and participation of rural communities in commercial activities without much concern about the possibility of success or sustainability. These people had different reasons for participating, different goals, demands and aspiration but they represent people who have benefited from a rural development activity.

Fisheries development, on the other hand, demanded more cautious planning and implementation that need to take into consideration the nature of the resource and all the related activities crucial to the operation of a fishing project. Hence, while the nature of rural development activities has required that they be widely promoted in different areas as quickly as possible, fisheries development projects require a more cautious approach to ensure successful implementation. This is important because fisheries development will not contribute as much as it need to if it fails and has a short life span. It is also important that all the different bodies involved in the development interact with each other on the procedures that they follow.

Rural development initiatives involve people who wanted to better their lives as well as those who wanted to take advantage of available funding. This varying perception has made it hard to control the implementation of development projects. Most of the Rural Fisheries Development Programme that was to promote the use of fisheries in remote regions to provide a basic protein source and opportunities for employment and income generation failed and did not successfully integrate rural communities into the formal sector. For example, in 1981, 24 such rural fishing groups were in operation in Fiji under the programme. Of these, 71 per cent (17 ventures) were less than a year old. In the previous year (1980), 17 similar schemes were set up, but of these only 41 per cent (seven ventures) remained in operation 12 months later.

Likewise, the operations of fish collection schemes have been an economic nightmare, mainly because of the distances involved, the nature of transport links and the people's various dispositions and low disposable incomes. The low and irregular production that reflect subsistence lifestyles and the inefficiency of government officials who operated these schemes were among the reasons why such ventures were likely to be unviable in the Pacific Islands (Carleton 1983:1). In another study, Evening (1983:3) argued that the accumulation of catches over a period of time was impossible without the proper storage facilities, which were absent in most rural communities. Despite these earlier warnings about the impracticalities and failures of operating collection schemes, the Republic of Fiji Military Forces in 1988 instituted such a scheme, Operation *Veivueti* (resurrect), without consulting the people. Again, the assumption was that people needed this service and that they were prepared for it.

The people in rural areas were at first enthusiastic in fishing and selling their catches to the Army's Auxiliary Unit vessels. However, after the initial enthusiasm waned, the people returned to their subsistence schedules. There was little preparation for collection vessels and the people soon resorted to coconut and fisheries products because these commodities required little prior preparation. In time productivity decreased to the point where it was uneconomical to operate the scheme. By this time too, the operation had run into serious financial difficulties because expensive army vessels were being used to cart commodities to the market. Problems with post-harvest treatment also resulted in serious losses. Moreover, there were accusations of mismanagement and abuse of government resources. The project was poorly planned and implemented, and consequently failed because the people were not prepared for it.

In spite of all these failures, the Government continued to organise collection schemes because of the importance of the concept to rural development. After all, it is assumed that if people are allowed to participate in trade then they can improve the situation. Nevertheless, the results have all been disappointing because people did not take advantage of the available opportunities. The National Trading Corporation (NATCO), the corporate company that has

replaced the National Marketing Authority (NMA) has also received the same government support but has also failed (*Fiji Times* 1997). Fiji's recently deposed Coalition Government was promising to establish marketing centres in rural areas (Fijilive 1999f). This supposedly new concept is based on the same principle as the previous attempts and is likely to have the same dismal result.

### **5.3.2.3 Marketing**

The various collection schemes illustrate the belief within Fiji that marketing need to be improved to facilitate fisheries and rural development. The fish collection schemes have faced all types of problems from technical ones relating to ice production and use to the post-harvest treatment of catch. In addition there are management issues as well as financial ones. In the case of Operation *Veivueti*, a notable feature was the rapid rate of deterioration of the commodity. Consequently it was difficult to sell at the price at which these goods were purchased even though the prices were higher in urban areas. Furthermore, the schedule was never definite and there was a lot of wasted time as people prepared to fish while the boats and their crew idly wait. These projects were operated by civil servants who were not the best people to involve in these activities.

Markets for fish and other primary produce are rare in rural areas, where the buying power is low and the markets are small because of subsistence living. People in rural areas do not have regular incomes and supply most of their needs through their own effort. They also share whatever surplus they get. As a result, their need for markets is limited. The situation is aggravated by the fact that the main markets in urban areas are unlikely to support commercial fishing in areas with poor transportation links.

There has been a need in Fiji, and in other Pacific Islands generally, to improve the basic marketing infrastructure. The fish handling facilities in the region run from poor to mediocre, which has discouraged the development of fisheries in rural areas (Szabo and Herman 1984). It is believed that if these marketing conditions are improved, more successful fisheries development can be undertaken. The Fisheries Division, with the support of Japanese aid, has attempted to address this problem by organising marketing schemes such

as the Overseas Fishery Cooperation Foundation (OFCF), and by supplying ice in an attempt to boost commercial fishery (Nichols and Moore 1985:8). Training has also provided for the postharvest treatment of the catch and the processing of value-added commodities that facilitate the marketing of fisheries products. The advent of the roll-on-roll-off interisland ferries has improved the situation considerably but the service is only available for the main islands.

#### **5.3.2.4 Economic considerations**

Government and the private sector are expected to increase provision of fish handling and processing facilities and collection centres as commercial fishing intensifies (Joint Fisheries Strategy Mission 1988:5). However, in the areas where these developments are undertaken, the question of sustainability remains a major consideration. In some parts of the country, such as in Dreketi and Bua, efforts are being made to arrange export markets. These developments can mean more fish products and new opportunities for people in rural communities. However, it is critical that the economic benefits are properly scrutinised in the process and that the resources are not overexploited.

In a typical modernisation tradition, aid has played an important role in fisheries development projects. Unfortunately, the economics for some of these initiatives have not been properly thought out. For example, Japanese aid was used in the construction of ice plants in Kadavu, Levuka, Lakeba, Taveuni, Savusavu, Labasa, Wainibokasi, Rakiraki, Ba and Lautoka as part of the decentralisation effort. Some of these facilities such as the ones in Kadavu, Lakeba and Taveuni have not been well utilised due to low ice requirement. The plants are expensive to maintain and create a financial burden on the Fisheries Division budget. This type of intervention has lured people into participating in the sector. Unfortunately, not all of the people who have been attracted to it have been committed to the required development activities.

Agriculture and fisheries loans have been available from the Fiji Development Bank (FDB) under a government subsidy that has been paid to FDB so that it can offer reduced rates to the farmers and the fishers. The rates charged for

fisheries projects is 5.5 per cent per annum on loans of up to \$20,000 and 11 per cent on any excess. These subsidised rates have been lower than the maximum standard rate of 11.5 per cent otherwise charged by FDB (Nichols and Moore 1985:72; Hailey 1988:49; Qarase 1988:237).

According to the Agricultural Loans Manager at the FDB, a loan repayment of say \$180 per month requires a minimum of 60 kilogrammes of fish if sold at above \$3 per kilogramme. This means around 20 kilogrammes per trip if the fishers make three trips a month or 30 kilogrammes for those that make two trips per month. Unfortunately, not all fishers have either maintained such a schedule or obtained those prices. In addition, the schedule did not take into account the other costs that the fishers incur for items such as diesel, labour and licences. This means that even these subsidised loans have not been consistently repaid.

#### **5.3.2.5 Environmental changes**

Towards the end of DP 9 (1986-90), the emphasis was on increasing productivity through the modernisation of fishing techniques, facilities and support services. However, the many incidences of collapsed fisheries have also highlighted the need to ensure that fisheries development is in line with the capacity of the stock to support it. Numerous reports have alluded to the deteriorating state of the inshore fisheries (Kailola 1995b:63-4; Pita 1996:7; Preston 1997:19). Meanwhile, the poor state of data has made it impossible to realistically assess the real extent of the problem.

Rural development activities have resulted in the alteration of the environment. Whether it is the milling of the forest, the building of roads or the blasting of the reefs and the clearing of mangroves, all have contributed to the rapidly deteriorating nature of the environment and the impoverished nature of the fisheries.

#### **5.3.2.6 Sociocultural features**

Fisheries development has to be compatible with existing sociocultural conditions in rural areas. The promotion of community-owned projects over individually owned ones has been another notable feature of fisheries development. These schemes are based on the assumption that rural



communities work well in groups. In addition, the schemes are ideal to maximise the impact of the development activities. Unfortunately, communal groups have many internal problems and are often operated by few active members and a lot of inactive ones (Veitayaki *et al.* 1996). These projects' initial estimations and projections would be irrelevant because the majority of the local people only put in part-time and partial effort. Furthermore, communal projects are used to meet social obligations. For example, the project fishing gear has been used in fishing for community functions without any definite arrangements for payment or compensation for loss of fishing time and use of gear.

Communally-owned projects are difficult to operate due to interpersonal differences and leadership issues (Nichols and Moore 1985:10). The high failure of communally-owned projects has illustrated the problem and prompted the formulation of individually-owned projects in which the owners are committed to their investment. In addition, the demands and expectations (usually premised on a noncompensatory monetary basis) placed on rural development projects by relatives and the communities at large have meant extra costs to the ventures.

The domination of IDA fishing licenses over ODA shows the people's preference for inshore fishing. The reasons for these are unconfirmed but some people blamed the situation on the higher demand for inshore fish and their attractive prices in the local markets. Others argued that indigenous Fijian fishers are not used to the idea of ODA fishing trips that took them away from home for more than two days. Yet some other people have argued that villagers do not have the means to venture further, while others blamed the more demanding nature of ODA fishing, which has made it less attractive to coastal fishers.

#### **5.3.2.7 Capacity building**

Capacity building has been an essential part of both the Rural Fisheries Development Programme and the Commercial Artisanal Fisheries Development Programme. However, the training was neither effective nor appropriate for what the trainees were expected to undertake (Szabo and Herman 1984; Joint Fisheries Strategy Mission 1988:24-7). Fisheries

developments are new to the majority of the people in rural areas who needed to be properly trained for these new activities and requirements. Incidentally, the lack of training made it difficult for these people to appreciate these requirements and their role.

#### **5.3.2.8      *Role of institutions***

The Fiji Fisheries Division has been responsible for all aspects of fisheries development in Fiji. It has looked after all five fisheries sectors and has been charged with activities ranging from extension work to resource assessments, technical services and administration. This has been a major challenge, given the responsibility and the varieties of tasks that are performed. Given such broad responsibilities, it is hardly surprising that important activities such as marketing, research and long-term planning have not been afforded the attention they deserve.

There is the challenge to achieve a higher level of efficiency and to provide the institutional structure necessary to enhance the involvement of people and ensure the sustainability of the industry. The Fisheries Division needs to have the capacity to provide all the tasks that are required to make fisheries development more efficient and effective.

The role of the private sector in the provision of special responsibilities such as marketing, research and extension services must be improved. As the fishers in Ba, Lautoka, Suva and Labasa have illustrated the multiplier effects to society of such fisheries development need not be too negative.

#### **5.3.2.9      *Evaluation and monitoring***

Evaluation and monitoring have not been seriously used to gauge the extent to which the projects are meeting their objectives and are addressing the need in the community. Evaluations and monitoring are required if the lessons from earlier fisheries development projects are to be learnt.

### 5.4 Conclusion

This chapter has examined fisheries development objectives and strategies in Fiji. The fisheries projects illustrate the influence of development approaches such as modernisation, integrated rural development, needs based development, sustainable development and strategies such as decentralisation that have been associated with rural development initiatives at different times. The analysis also highlights the problems that influenced the outcome of fisheries development projects. The chapter also provides the basis for the preparatory work that should be incorporated into future fisheries development initiatives.

It is important that a systematic approach is adopted for the implementation of fisheries development projects. The experiences in Fiji have shown that hurriedly put-together development projects do not work. What is needed is carefully planned projects that take into consideration the local situation. In addition, all the issues that influence the outcome of fisheries development should be carefully addressed. This is why evaluation and monitoring processes are important because they allow the lessons from previous fisheries development experiences to be learnt and used in the implementation of future development projects.

## 6. Case study 1: the boat building project

### 6.1 Introduction

The boat building project was part of the Fiji Government's strategy to boost fisheries production and improve the local fishing capacity during its Eighth and Ninth Development Plan (1981–90) periods. The project was a component of two of the four fisheries development programmes pursued at the time (see Chapter 5). It was part of the Rural Fisheries Development Programme to provide suitably equipped, low cost fishing vessels to selected rural communities; and the Commercial Artisanal Fisheries Development Programme to provide suitable fishing vessels to commercial fishermen to enable them to fish around the reefs in areas more distant from larger urban centres. The project was also tied to the Government's rural development strategy to involve more indigenous Fijians in the economic activities of the country.

At the local level, the fishing boats were regarded as useful investments to improve people's income-earning capacities and ease transportation problems. The project also allowed people to do things their previous situation did not permit. These included the chance to support the children's education and the construction of houses in the villages. It was hoped the use of the Food and Agriculture Organisation (FAO)-designed 28-foot boats, would facilitate fishing over longer periods. The fishers could fish for up to 10 days because of proper storage facilities on board. The fishing boats were bigger and could carry bigger catches, allowing visits to the main towns and cities, which were previously inaccessible from distant fishing areas. The use of the boat could also enhance the introduction of new fishing techniques, such as deepsea fishing and longlining.

This chapter describes the boat building project and its outcome. It also summarises the results of the evaluation using the performance criteria and 'element' questions described in Chapter 4. The evaluation also ascertains the extent to which factors such as planning and public consultation, economic considerations, sociocultural factors and the role of institutions were related to

the intended impacts of the projects, the actual results and the reasons for the difference. The evaluation also highlights the problems relating to the design of the project and its suitability given the sociocultural position of the indigenous Fijians who were targeted.

## **6.2 The boat building project: the background**

The boat building project was part of a government initiated and externally funded programme of activities to facilitate the development of the inshore fisheries sector. In accordance with modernisation approaches, the project was part of the drive to encourage the involvement of more local people in the sector and the improvement of gear and subsequently fishing capacity. Under the project, artisanal fishers and villagers were selected to participate in the six months Rural Fisheries Training Programme (RFTP), another part of the Rural Fisheries Development Programme. During the six months training, which covered all aspects of commercial fishing including boat building, navigation, engine maintenance, bookkeeping and fish biology, the trainees helped to build their multipurpose fishing boats. At the conclusion of the training, the trainee could purchase their boat at a subsidised price through loans from the Fiji Development Bank (FDB).

The boat was specifically designed by the FAO for use by artisanal fishers. The engines and other accessories were provided through Japanese aid (see Equipment Table 5.2). People who did not attend the training could still purchase the boats, provided they paid the commercial price. It was hoped the use of the FAO-designed boat would increase involvement in commercial fisheries and thus improve the sector's productive capacity.

During the project period, between 1978 and 1993, Fiji's Fisheries Division built approximately 394 FAO-designed 28-foot and a few 33-foot fishing boats. Sixty-seven per cent (263) of these boats were for RFTP trainees. The Fisheries Division acquired some of the boats for its own use, while the remainder, about 110 vessels, was sold to private buyers. The boat building project, was earmarked for the indigenous Fijian fishers. For instance, of the 145 trainees who attended the RFTP between 1981 and 1987 and were given boat loans, only 16 were nonindigenous Fijians. In addition, the recipients of

**Table 6.1 Recipients of subsidised boats 1978-1981.**

Owning Group	Location	Date	Cost F\$	Deposit F\$	Funding	Source
Fijian, Family	Yasawa i Rara	1978	5000		Loan	FDB
Fijian, Communal	Tailevu	1978	5000	1000	Aid	FARD
Fijian, Individual	Tailevu	1978	5000		Loan	FDB#
Japanese, Individual	Namarai, Ra	1979	5000	5000	Private	#
Fijian, Individual	Laqere	1979	5000		Loan	FDB
Mixed-Race, Individual	Tamavua	1979	5000		Loan	FDB*
Fijian, Communal	Tavuki, Kadavu	1979	5000		Loan	FDB* @
Fijian, Individual	Laqere	1979	5000		Loan	FDB#
Indo Fijian, Individual	Labasa	1980				+
Fijian, Individual	Lautoka	1980	5500		Loan	FDB@
Govt Aid, Communal	Suva	1980	5500		Aid	^
Fijian, Communal	Solevu, Malolo	1980	5006	1300	Loan	FDB
Fijian, Communal	Yavu, Baniki	1980	5500	910	Loan	FDB
Fijian, Communal	Rakiraki, Kadavu	1980	5500	1000	Loan	FDB*
Fijian, Individual	Nausori	1980	4020	1500	Loan	FDB
Mixed-Race, Individual	Suva	1980	11,000	11,000		-
Fijian, Communal	Viwa, Yasawa	1980	5500		Loan	FDB
Mixed-Race, Individual	Taveuni	1980	5500	5500		
Fijian, Individual	Savusavu	1980	5500		Loan	FDB
Fijian, Individual	Lautoka	1980	5500		Loan	FDB
Fijian, Communal	Oso, Kadavu	1980	5500	2000	Loan	FDB
Fijian, Communal	Moturiki	1980	5500		Aid	FARD
Fijian, Individual	Cakaudrove	1980	5500		Loan	FDB#
Fijian, Communal	Labasa	1981	6000		Aid	FARD
Fijian, Communal	Savusavu	1980	5700		Loan	FDB+
Others, Communal	Kia	1981	5500		Aid	FARD
Fijian, Communal	Labasa	1981	10000		Aid	FARD
Fijian, Communal	Savusavu	1981	5700	1200	Loan	FDB
Government	Kadavu	1981	5500		Aid	MPI
Government	Labasa	1981				MPI
Government	Lami	1981				MPI
Government	Lautoka	1981				MPI
Fijian, Communal	Macuata	1981			Aid	FARD
Fijian, Individual	Rewa	1981	5700	1200	Loan	FDB
Fijian, Individual	Tailevu	1981	5700	1200	Loan	FDB* @
Fijian, Individual	Rewa	1981	5700		Aid	FARD
Fijian, Individual	Naigani	1981	5700	1200	Loan	FDB
Fijian, Individual	Bau	1981	5700	1200	Loan	FDB
Fijian, Individual	Rewa	1981	5700	1200	Loan	FDB
Fijian, Individual	Rewa	1981	5700	1200	Loan	FDB
Fijian, Individual	Nadi	1981	8920	2920	Loan	FDB
Fijian, Individual	Suva	1981	7000	1000	Loan	FDB
Fijian, Communal	Tailevu	1981	7000	1500	Loan	FDB* @
Fijian, Individual	Lami	1981	7000	1000	Loan	FDB
Fijian, Communal	Bega	1981	7000	500	Loan	FDB
Fijian, Individual	Korolevu			6000		
Indo Fijian, Individual	Nasinu	1981	7000	1000	Loan	FDB
Fijian, Communal	Taveuni	1981	6000		Aid	FARD
Fijian, Communal	Suva		6600		Loan	FDB

# Boat was resold

^ Boat was not used for fishing

- 2 Boats not looked after. One sank, the other resold

\* Boat was repossessed by FDB

@ Boat included in the study sample

+ Boat was given under questionable circumstances

Source: Compiled from the Subsidy Boats Record Book, Fiji Fisheries Division.

subsidised boats between 1978-81 (Table 6.1) were mostly indigenous Fijians.

Table 6.1 which includes four of the respondents in the sample, also provides useful information that helped to crosscheck some of the information gathered during fieldwork. For example, the cost of the vessels was between F\$4,020 and F\$10,000, while sources of funds ranged between loans, private funds and aid. Development agencies and international nongovernment organisations (NGOs) channelled money through government departments such as the Fisheries Division, the Ministry of Youth and Sports and the Ministry of Fijian Affairs and Rural Development (FARD) to involve people in fisheries development activities.

The majority of the boats and development assistance was given to indigenous Fijians. These ventures were equally divided between communally and individually owned ventures (Table 6.2). Most of the vessels were acquired through loans. There were a few private purchases and a questionable sale to an Indo Fijian individual, which showed the lack of attention to detail that featured at all levels in this project.

**Table 6.2** Types of subsidised ventures, 1978–1981.

	Fijians	Indo Fijians	Mixed-Race	Others	Total
Communal	18	0	0	0	18
Family	1	0	0	0	1
Individual	18	2	3	1	24
Total	37	2	3	1	43
Government					4
Loan	29	1	1	0	31
Aid	9	0	0	1	10
Private	1	0	2	1	4
Questionable	0	1	0	0	1

Source: Compiled from the Subsidy Boats Record Book, Fiji Fisheries Division.

The boat building project was popular amongst the indigenous Fijian villagers. The project rationale that people with better fishing equipment could improve productivity and consequently improve their living conditions suited indigenous Fijians aspirations. It was assumed that people who were at this time predominantly subsistence fishers, with some basic training, could become competent commercial operators. It was also assumed that people would fish and be able to repay the loans that they acquired to purchase the boats. Such development, it was reasoned, would have a snowballing effect on the communities, which would be provided with a source of food, regular income and a convenient means of transportation.

The project was thought particularly suitable for indigenous Fijians because they owned the fishing grounds, were in rural areas and needed to be involved in the economic activities of the country. However, it was not long before problems were noticed. Fishing groups failed to meet their boat loan repayments and were not fully utilising their fishing boats. Eventually, the first repossessed boats were on the market and this was followed by a regular supply of boats that had faced the same fate. Through the markets, the boats changed hands resulting in the situation in 1997, where the majority of the FAO-designed fishing boats were owned and operated by Indo Fijians rather than indigenous Fijians who were the original boat owners. Labasa is now the main fishing centre for the FAO-designed fishing boats in Fiji, with more of these boats than in the rest of the country combined.

The boat building project illustrated the problems of poorly planned government initiated and externally driven rural development activities that end up with people other than those who were targeted. In this case, the problems were the result of project design that were based on outdated development approaches which were inappropriate for the local situation.

### **6.3 Participants assessment**

This study was conducted in the areas marked in Figure 4.2. On Viti Levu, the main sites were in Suva and Lautoka while in Vanua Levu, the study sites were in Labasa and Savusavu. Fishers from around these areas converge at these locations. For instance fishers from Lomaiviti and Kadavu were interviewed in Suva while those from the Yawasa and Mamanuca Groups were interviewed in Lautoka. Labasa and Savusavu are the centres for the inshore fishing fleets in Vanua Levu.

The FAO-boat owners in Lautoka are mostly from Yasawa, a group of small nearby islands. The fishers come to Lautoka to sell their fish and obtain their supplies. These fishers would arrive weekly in Lautoka on Thursdays or Fridays and return home on Saturdays. Good fishing grounds surround Yasawa but the people have no other natural resources apart from the white sand and sunshine that attract tourists. The fishing vessels in Yasawa, like in all the rural areas, were commonly used to transport passengers.



Kadavu and Gau were study sites in the outer islands. Kadavu is about eight hours by boat from Suva market. Fishing in Kadavu is predominantly a supplementary source of income. Conversely, in the smaller islands, such as Dravuni and Ono, fishing is the main source of income. At the time of the study, Kadavu was becoming an increasingly popular tourist destination. However, the living conditions were like those in rural Fiji where people lived in villages with poor markets and limited opportunities for commercial activities. The reefs of the Great Astrolabe provide good fishing grounds but the people of Kadavu have experienced problems with poachers because of their close proximity to Suva.

Gau, like Kadavu, is predominantly rural. Most of the fishing ventures in Gau were communally owned and operated. The poor shipping service and infrastructure made the operation of the fishing ventures challenging. For example, the fishers in Gau regularly took the eight-hour trip to Suva or Levuka to obtain their ice supplies and sell their catch. The fishing boats had to return to the markets before the ice melted; otherwise they had to make an extra trip.

Thirteen per cent (53) of the 394 FAO-designed boats built by the Fisheries Division during the project period were part of this research sample. This sample (referred to in this study as B1–B53) represented 20 per cent of the 263 boats that were given to RFTP trainees and 48 per cent of the estimated 110 boats in operation in 1997, some six years after the project was formally concluded. Sixty-eight per cent (36) of the sample cases (or 33 per cent of the total number of boats in operation in 1997) were in operation at the time of the study. The high proportion of operational ventures in this sample did not reflect the outcome of the whole project, but rather the people involved in the study.

In the 1997 study sample, indigenous Fijian owned 66 per cent of the 53 vessels studied. They also owned 55 per cent of the original boats (Table 6.3) and the bulk (26 per cent) of the nonoperational vessels. Indo Fijians on the other hand, purchased secondhand boats most of which were still operational at the time of the study. Thus, whilst indigenous Fijians took loans from the FDB to purchase new boats, their Indo Fijian counterparts bought their boats secondhand through financing schemes that were arguably more responsive

to their changing situations. Despite the mixed success, most of the boat owners felt that the project was worthwhile. The rate of change in ownership was about 25 per cent per annum (Walton 1991:14)

**Table 6.3 Status and ownership of the vessels studied in 1997.**

	Fijian		Indo Fijian		Mixed-Race		Chinese		Total	
	#	%	#	%	#	%	#	%	#	%
Operational	21	40	9	17	5	10	1	2	36	69
Nonoperational	14	26	1	2	2	4	0	0	17	32
Total	35	66	10	19	7	14	1	2	53	100
Original owner	29	55	1	2	2	4	1	2	33	62
Secondhand	6	11	9	17	5	10	0	0	20	38
Total	35	66	10	19	7	14	1	2	53	100

Note: Figures have been rounded up and may not add up

Source: Veitayaki, 1998. Field data

Communally owned ventures were encouraged in the formative years of the project to maximise the impacts of the development on the communities. By 1997, family-owned and individually-owned ventures had replaced the communally-owned operations, representing a change in preference (Table 6.4).

**Table 6.4 Status, types of ventures and ownership in 1997.**

Operational	Individual	Family	Communal	Total
Fijian	5	12	4	21
Indo Fijian	8	1	0	9
Mixed-Race	4	1	0	5
Chinese	1	0	0	1
Total	18	14	4	36
Nonoperational	Individual	Family	Communal	
Fijian	2	3	9	14
Indo Fijian	1	0	0	1
Mixed-Race	1	1	0	2
Chinese	0	0	0	0
Total	4	4	9	17

Source: Veitayaki, 1998. Field data

With the other racial groups, the fishing ventures were mostly owned by individuals. For example, there was no communally-owned venture operated by either Indo Fijians or Mixed-Race.

The boats in operation included in the study are listed in Table 6.5.

**Table 6.5 Operational ventures in 1997.**

No.	Case	Location	Ownership	Race	Remarks
1	B2	Banki	Communal	Fijian	RFTP trainee, original owner
2	B4	Yasawa	Family	Fijian	RFTP trainee, original owner
3	B9	Rewa	Individual	Mixed-race	Commercial fisher, secondhand boat
4	B10	Yasawa	Individual	Fijian	Commercial fisher, original owner
5	B11	Yasawa	Family	Fijian	RFTP trainee, original owner, hurricane damage, in arrears
6	B13	Kadavu	Individual	Fijian	Commercial fisher, secondhand boat, owned two boats
7	B15	Yasawa	Family	Fijian	RFTP trainee, original owner
8	B16	Yasawa	Family	Fijian	RFTP trainee, original owner
9	B17	Yasawa	Family	Fijian	RFTP trainee, original owner, two boats, good performance
10	B18	Yasawa	Family	Fijian	RFTP trainee, original owner
11	B19	Yasawa	Family	Fijian	RFTP trainee, original owner, two boats, good performance
12	B26	Labasa	Individual	Indo Fijian	Commercial fisher, secondhand boat
13	B27	Labasa	Individual	Indo Fijian	Commercial fisher, secondhand boat
14	B28	Labasa	Individual	Fijian	Commercial fisher, secondhand boat
15	B29	Labasa	Individual	Indo Fijian	Commercial fisher, secondhand boat
16	B30	Labasa	Individual	Indo Fijian	Commercial fisher, secondhand boat
17	B31	Labasa	Individual	Indo Fijian	Commercial fisher, secondhand boat
18	B32	Labasa	Individual	Indo Fijian	RFTP trainee, commercial fisher, original owner
19	B33	Labasa	Individual	Fijian	Commercial fisher, secondhand boat, diver
20	B34	Savusavu	Individual	Mixed-race	Middleman, secondhand boat buying and selling
21	B35	Labasa	Individual	Indo Fijian	Commercial fisher, secondhand boat, hired hands
22	B37	Labasa	Individual	Indo Fijian	Commercial fisher, secondhand boat, hired hands
23	B38	Labasa	Individual	Mixed-race	Commercial fisher, secondhand boat, hired hands
24	B39	Labasa	Communal	Fijian	RFTP trainee, original owner
25	B40	Labasa	Individual	Mixed-race	Commercial female fisher, secondhand boat, hired hands
26	B41	Labasa	Family	Indo Fijian	Commercial fisher, secondhand boat, husband captains boat
27	B42	Suva	Communal	Fijian	Church Youth led by former Fisheries Officer, original owners
28	B43	Dreketi	Family	Mixed-race	Middleman, secondhand boat
29	B44	Dreketi	Individual	Chinese	Commercial fisher, original owner, live fish venture
30	B46	Yasawa	Family	Fijian	RFTP trainee, original owner
31	B47	Yasawa	Family	Fijian	RFTP trainee, original owner
32	B48	Yasawa	Communal	Fijian	RFTP trainee, original owner
33	B49	Yasawa	Family	Fijian	RFTP trainee, original owner
34	B50	Yasawa	Family	Fijian	RFTP trainee, original owner
35	B51	Yasawa	Family	Fijian	RFTP trainee, original owner
36	B52	Yasawa	Individual	Fijian	Commercial fisher, original owner, operated village venture

Source: Veitayaki, 1998. Field data

Most of the indigenous Fijian ventures were owned by family groups that acquired original boats. With the Indo Fijians and the Mixed-Race, the majority of the boat owners were individual commercial fishers who had bought secondhand vessels. These people often spent less than F\$3,000 to purchase the boats and then spent up to F\$6,000 to refurbish them. Accessories such as echo and depth sounders, fish finders, compasses, auxiliary power,

searchlights and radios were installed to enhance capacity and safety (B26, B27 and B41). The speed at which these boats were repaid and the financing of other spin-off developments illustrates the benefits of the project to the owners and the communities in general.

The number of operational ventures was highest for the Northern and Western Divisions, which suggested that these vessels were well suited for these areas. Commercial and experienced fishers owned the majority of the fishing boat ventures in these Divisions. These fishers bought their boats without subsidy (B10, B44) or purchased them secondhand (B9, B26, B27, B41). The majority of the successful commercial fishers were based in Labasa in the Northern Division, while the most successful RFTP trainees were from Yasawa in the Western Division. This confirmed Walton's (1991:17) assertion that these two areas are ideally located close to both good fishing grounds and good market outlets. The breakdown of the operational venture in the sample is presented in Table 6.6.

**Table 6.6** Operational boat owners in 1997.

	Fijian	Indo Fijian	Mixed-Race	Chinese	Total
Communal	4	0	0	0	4
Family	12	1	1	0	14
Individual	5	8	4	1	18
Total	21	9	5	1	36
RFTP	16	1	0	0	17
Commercial	5	8	5	1	19
Original	18	1	0	1	20
Secondhand	3	8	5	0	16

Source: Veitayaki, 1998. Field data

Most of the nonoperational projects covered in the study were from the Eastern Division, arguably Fiji's most marginal division in terms of economic activity and development. The Eastern Division covers the maritime provinces of Lomaiviti, Kadavu and the Lau Group. These islands are isolated from the main urban centres and are predominately populated by indigenous Fijians whose subsistence village lifestyle, in which barter is common, does not encourage commercial ventures that need to focus on cash generation. The fishers have to travel long distances between the markets and the fishing grounds, which adds to their costs. For example, in Lomaiviti, all of the seven

nonoperating vessels in the sample were lost prematurely, mostly through repossession (Table 6.7). The vessels were mismanaged, lost in storms or just fell into disrepair. All of these boats, except one, had been obtained as new vessels.

**Table 6.7 Nonoperational ventures by location, 1997.**

No	Case	Location	Ownership	Race	Remarks
1	B1	Kadavu	Communal	Fijian	RFTP trainee, replaced boat captain, loan arrears
2	B3	Lomaiviti	Family	Fijian	RFTP trainee, lost in hurricane, loan arrears
3	B5	Lomaiviti	Individual	Mixed-race	RFTP trainee, lost at sea, loan arrears
4	B6	Yasawa	Family	Fijian	RFTP trainee, boat loan repaid, boat at Lautoka wharf
5	B7	Kadavu	Communal	Fijian	Third vessel, financial ruin, loan arrears
6	B8	Tailevu	Individual	Fijian	RFTP trainee, financial mismanagement, boat repossessed
7	B12	Kadavu	Communal	Fijian	RFTP trainee, third fishing vessel, financial ruins, loan arrears
8	B14	Suva	Individual	Indo Fijian	Fijian boat captain made poor decisions, boat resold
9	B20	Mamanuca	Communal	Fijian	RFTP trainee, villagers not interested, loan arrears
10	B21	Lomaiviti	Communal	Fijian	RFTP trainee, replaced boat captain, loan arrears
11	B22	Lomaiviti	Communal	Fijian	RFTP trainee, replaced boat captain, boat stolen, loan arrears
12	B23	Lomaiviti	Family	Fijian	RFTP trainee, boat captain squandered money, loan arrears
13	B24	Lomaiviti	Communal	Fijian	RFTP trainee, boat captain squandered money, loan arrears
14	B25	Kadavu	Family	Mixed-race	RFTP trainee, boat savings, move to trucking business
15	B36	Lomaiviti	Individual	Fijian	Commercial fisher, repaid loan through boat insurance
16	B45	Kadavu	Communal	Fijian	RFTP trainee, mismanagement, loan in arrears
17	B53	Tailevu	Communal	Fijian	RFTP trainee, lack of community support, loan arrears

Source: Veitayaki, 1998. Field data

All but three of the nonoperational ventures were owned by indigenous Fijians. As shown in Table 6.4 the majority of the nonoperational vessels were communally owned. All but three of the failed ventures were led by RFTP trainees and had loan account arrears. Some of the ventures were affected by social disagreements and leadership change.

Table 6.8 provides an overview of where the vessels were in 1991 and their ownership (Walton 1991). Although the bulk of the boats were already in the Northern Division, the numbers were fairly even across the Divisions. The ventures totalled 239 and were dominated by the trainees. By 1997 the majority of the vessels were still in Labasa but were owned by commercial fishers.

**Table 6.8** Vessel distribution during Walton's (1991) review.

Division	Commercial	Trainee	Total	Estimated Total
Northern	25	43	68	83
Western	17	39	56	53
Central	36	29	65	16
Eastern	18	32	50	30
Total	96	143	239	182

**Source:** Adapted from Walton, H., 1991. Progress and planning in Fiji's artisanal fishery - a review of past activity and future options in the Rural Fisheries Development Programme, FAO/UNDP Regional Fishery Support Programme RAS/89/039, Suva:17 (unpublished).

The most common problems for boat owners in the sample was financial mismanagement, which resulted in people reneging on their loan repayments and accruing arrears, management of commercial activities and leadership (Table 6.9). Twenty-four per cent of the vessels experienced loan arrears and were in danger of repossession. This was the result of poor management and leadership, which also caused the loss of boats, and theft.

**Table 6.9** Problems with the nonoperational venture in 1997.

Status	Arrears	Repossessed	Resold	Marooned	Lost	Stolen	Total
Numbers	4	6	3	2	1	1	17
Percentage	24	35	18	12	6	6	100

Note: Figures have been rounded up and may not add up

**Source:** Veitayaki, 1998. Field data

## 6.4 Factors affecting the outcomes of the project

### 6.4.1 Appropriateness

Appropriateness explores the extent to which the project objectives and desired outcomes align with government objectives and priorities, and the needs of the people. The appropriateness of the project determines whether the project is required or whether it should be continued. The issues explored in this section include understanding the community, the impact of the project, environmental damage, and sociocultural influence.

#### Understanding the community

Only eight per cent of the 53 respondents remembered being consulted during the initial stages of project planning. This means that government had instigated the project to achieve its own goals, a typical top-down approach to rural development. The local communities were not involved in the planning stages because the assumption was that local communities participate in any

rural development activity that government initiated, and that they would approach it rationally. The lack of consultation with the local communities meant that the government instituted the project without having an accurate understanding of what the people needed, the factors that motivate them and hence how best to implement the project.

The speed at which the ventures were developed to take advantage of the project opportunities created problems. There was little understanding of the implications of what each community was getting into and whether the people could actually meet the requirements of the development activity. The project was offered to people throughout the country, without any consideration of the variations in the cost of operation in different areas. Communal ventures were promoted in the villages without any thought given to the ability of the people to work together and an understanding of the differences that might exist. It was assumed that people would adopt the new fishing methods even though they were unfamiliar with these new fishing methods.

Community-owned ventures were found through experience to be stressful to manage because of the influence of traditional practices, the difficulty of motivating people and the inevitable social conflicts that arise when people in a community are required to work together in a commercial operation. In most of the communally owned ventures, unless there was good leadership, people quickly lost interest or took advantage of the opportunity for their own personal gain. Many communal projects, as a result, were quickly left with only a handful of people to operate them. Others did not feel that they gained justifiable reward for their effort. It was difficult to arrive at decisions because of the splinter groups and noncommitted members.

Family and individually-owned ventures were easier to control than the community-owned operations, because they were smaller and because family members had more respect for their older kin, who usually headed their operations. The individually-owned ventures were the best operated because the owners were the sole decision makers who were committed to their fishing businesses. These individuals treated their operations as commercial ventures

and so were more consistent with their effort and more stringent with their expenses.

Even then, there were still problems with family and communally-owned ventures. In a number of instances (B3, B5, B6, and B8), certain individuals had acquired their own boats before they invited other family members to join them. In all of these cases, the ventures faced social problems that they would not have faced had the individual owners personally kept control of the ventures. However, the gesture to invite their relations to be part of the venture was typical amongst indigenous Fijians, to whom family ties are strong and are the preferred basis of communal operations. In two other instances, (B21 and B22) even the foreign aid offered failed to make any difference to the failure of communally owned ventures that was due to sociocultural difference.

The poor preparation for the project was also evident in the choice of RFTP trainees. These trainees had varied backgrounds: some had received secondary school education, others were good leaders, while some had traditional fishing backgrounds. In some of the cases the trainees lacked the will to exert themselves and had drinking problems (see Appendix 3). Seven of the 26 trainees in the sample were replaced as leaders of their fishing groups on their return to their communities, which caused division within the respective groups and contributed to the failure of the ventures.

In contrast, Indo Fijian fishers who acquired the 28-footers were experienced fishers who were motivated, self-financed and had borrowed money at commercial rates. These fishers were better placed to be successful, given their experience and location. The success of Indo Fijians in managing their fishing boat operations, highlights the problems that need to be addressed with the indigenous Fijian-owned ventures. One therefore questions why Indo Fijians were not given the same initial encouragement that indigenous Fijians were offered, since one of the project objectives was to increase fisheries production. One also questions why Indo Fijian fishers were not asked to share their formula for success with the other fishers such as the new RFTP trainees.



### Impact of project on community

The project was an opportunity, particularly for indigenous Fijians, to boost fisheries production, enhance fishing and increase income-earning capabilities from the utilisation of fisheries resources. The people and communities with good fisheries and those with restricted land resources were quick to take advantage of the opportunities to earn an income through fishing. The majority of fishers involved in the study, for instance, earned between F\$600 and F\$1,200 per trip while exceptional cases earned between F\$1,800 and F\$2,600 (Table 6.10).

**Table 6.10** Production and income for people involved in the study, 1997.

Average Production Per Trip (kg)	Estimated Income Per Trip (\$)	Respondents	Percentage
Not applicable	-	1	2
Not available	-	2	4
4 strings* @ \$10-\$12 each	40 - 48	1	2
98 strings @ \$10 each	980	1	2
50 - 100	100 - 200	3	6
100 - 200	300 - 400	8	15
200 - 300	600 - 800	10	19
300 - 400	1000 - 1200	18	34
400 - 500	1400 - 1600	5	9
500 - 600	1800 - 2000	2	4
600 - 700	2000 - 2600	2	4

\* Assorted fish tied together with a string stuck through their gills

Source: Veitayaki, 1998. Field data

The project's contribution to artisanal fisheries was substantial, with national production increasing from 1,132 tonnes in 1981 to 4,580 tonnes in 1996. In terms of value, artisanal fisheries production in 1981 was valued at F\$2 million but was worth F\$17.4 million in 1996 (Fiji, Ministry of Agriculture and Fisheries 1981:15; Fiji, Ministry of Agriculture, Fisheries and Forests 1996a:8). These increased incomes were used in most rural communities to pay for other development activities, such as the construction of new houses, setting up of village stores, payment of school expenses for children and the provision of transport for locals.

Ninety-two per cent of the boat owners in the sample (49 cases) were happy with the impact of the project on the community. Even the owners of the unsuccessful ventures lamented that they no longer had the income, wealth and freedom they had enjoyed when they had the boats. The boats allowed

the people to increase production, to fish in more comfortable conditions and to have a steady source of income. The boats were also big enough for interisland travel and were economical over long distances. In some cases there was also the psychological satisfaction of serving the needs of family and community members. For example, some respondents paid the deposit for family-owned boats to demonstrate their achievement as villagers who had left the village to find work in the city. According to these people, it was their duty to contribute to the welfare of their kin back in the villages.

Fishing was more efficient and effective while productivity was heightened. The income generated and its effect on the community were enormous. People in small and isolated islands, such as those in Yasawas, were able to make regular contact with the outside world.

The fishing ventures provided new opportunities for people to improve their lives and welfare. B2 for example, was a communal venture that illustrates the spin-offs from the development project. The main objective of this fishing boat operation was to ease the transportation problems people faced. The F\$5,000 deposit was paid by the village cooperative store. This deposit allowed the people to take an F\$11,000 loan. Despite the lack of support from the community at large, the venture was a success. This was because of the dedication of six villagers, who worked for the venture without pay for about four years to repay the loan. In 1997, the venture was still in operation but was no longer intensively used for fishing. However, the vessel was the only form of regular transport for the villagers. In addition, the venture had rescued the ailing village store and continued to provide additional income to assist the owners meet their financial obligations. In 1997, the venture on behalf of the villagers paid the F\$2,600 provincial tax and \$275 village levy to the Methodist Church Conference. In addition, the boat still offers free passage to village children attending schools outside the village and markets people's fish in urban areas.

The development activities affected the sociocultural relations in local communities. In some cases, some of the boat owners (B3) acquired 'boss' or 'bigman' status and then used the venture's resources to maintain their new position. In other cases, the boat owners had become so prominent in the

village that they organised village activities. In yet another example, a family-owned boat had been marooned at the Lautoka wharf for eight years prior to 1997 because the owners had not worked well as a group and had quarrelled on a number of occasions, typifying how some of these types of ventures operate.

In this particular case, although the boat loan had been repaid, the vessel needed a new engine. The member who had attended RFTP had mismanaged the venture and had run it as his own enterprise. Another member who took over the operation was also accused of misappropriating funds. The loan account was only repaid after a family member took a personal loan to clear the debt. As this member of the family mentioned, the very thing that he wished would never happen had occurred—his family was 'torn apart'.

### **Environmental damage**

The boat owners were familiar with the impoverished state of the most intensively used fisheries resources in their respective locations. The leader of B2, for example, mentioned how his people had to seek permission from a chief in another island to allow them to use the chief's customary fishing grounds because of the depleted nature of their own. The man mentioned that he warned his people 'not to forget about the needs of their children who will be relying on the same fisheries resources in the future'.

Likewise, the owner of B9, who had been fishing since the 1950s, related how fish stocks in his area had become depleted, largely as a result of overexploitation. He mentioned how turtles, his best catch, were in danger of disappearing. This claim was substantiated when the turtle population was declared protected in Fiji in 1997. This fisher was contemplating relocating his fishing operation to some outer islands, where he reckoned the resources would have suffered less. Similarly, the fishers in Labasa, Ba, Lautoka and Suva all complained about the distance they had to travel to productive fishing grounds.

The boat owners were unanimous that the question of potential environmental damage caused by the project activities was ignored. The project was initiated in the 1980s, when environmental considerations were usually secondary to the

aims of maximising productivity. Little consideration was given to the impact of increasing boat numbers and fishing frequency on fish populations and the inshore environment in general. The promotion of distant water fishing through the project did not ease the pressure in the heavily fished inshore areas but spread the adverse effects of fishing over areas that were previously not affected by commercial fishing.

### **Sociocultural dimensions**

Seventy-seven per cent of the boat owners involved in this study (41 cases) felt that the sociocultural conditions affecting their people were adequately addressed in the project plan. However, the poor performances of indigenous Fijian fishers and the limited success of communal ventures in villages suggested that sociocultural factors such as organisation, tradition and their influence on the markets, prices and economic viability, might have inhibited success. In addition, the relative lack of success in the Eastern and Central Divisions illustrated the importance of addressing the sociocultural issues.

In many of the communal ventures (B1, B2, B21, B22 and B53), the people either fished communally or they organised themselves into social units that did the work. Administration was lax and people's participation was not consistent. There were no wages paid but instead a small allowance of less than F\$20 per trip was usually given to those involved in the operation. These arrangements placed great strain on the ventures, which were required to entice the people to do the work. These arrangements also hindered the commercial spin-offs that should accompany economic development, as the people had little money to share. As a result people quickly lost interest in communal ventures.

Occasionally, the project would be commandeered to fish and contribute to a particular social function (see section 3.2.2.1). On such occasions, the traditional offering by those requesting the favour was judged adequate for the favour being asked for. Thus, F\$20 worth of *yaqona* (*Piper methysticum*) or a whaletooth (*tabua*) worth F\$60 would be offered to secure a catch that would be worth hundreds of dollars. The exchange would be conducted because of the value of maintaining social relations between the two groups (Nayacakalou

1978:102). The expenses on these fishing trips were often added on to miscellaneous costs that caused these communal ventures to quickly run into debt.

Village people live in closed circles, so the lack of transparency in the operation and administration of the community fishing ventures resulted in rumours and gossip about the activities of project officials. In some cases (B1, B2), the gossip resulted in the changing of project officials. As a result, the members of the ventures were not united in making their business viable and profitable.

A common sociocultural problem was the inability to ensure that the leaders and custodians of communal and family-owned ventures worked towards the objectives of the ventures. Accountability was difficult to enforce because the organisational structures did not facilitate the constant monitoring that was required. Monitoring was also difficult because of poor records and the lack of regular meetings. As a result, problems were not remedied until it was too late because they were not detected in time. In a number of cases (B4, B11, B12, B23, B24), the trainees misappropriated project funds and were replaced by villagers who had not attended any training. In one of the ventures, in an attempt to minimise unauthorised dealings by any one member, it was decided that all of the group's marketing and financial dealings required the involvement of at least two officials of the group.

Another sociocultural problem was that confrontation and discussions that should help resolve problems are not seen as culturally appropriate in Fijian society. Difficulties were often ignored until it was too late. In one of the cases, the group chairman had resigned when he should have resolved the problem by confronting the trainee, who, because of customary prohibition (*tabu*), the chairman could not approach or speak to directly. The chairman opted to respect this customary behaviour and allowed the problem to worsen by relinquishing his position in the committee that supervised the venture's operation. The trainee was eventually replaced but it was too late to save the ailing venture.

Records for B53, a typical communal fishing operation, illustrate some of the problems associated with communally owned fishing ventures. These include irregularly organised fishing trips (shown by the number of times in a month fishing is conducted), short fishing hours, mostly below 10 hours per trip (duration of fishing trip), poor record keeping (information not available), and poor organisation that precluded viable commercial fishing (Table 6.11). This venture eventually collapsed because the villagers became disillusioned, as there were no wages paid to the workers and the whole business became one of hand-to-mouth existence.

Ventures in rural areas were also affected by community pressures and demands. In most of these cases, there was little consideration given to how the boat owners would meet the costs of the assistance provided. The owner of B10 for example, paid off his F\$17,500 loan from FDB for his second boat, but argued that his traditional obligations made it difficult for him to meet his repayments, which meant a higher interest rate, and arrear charges added on to his costs. This fisher had since moved out of the village to be free of traditional pressures and obligations and to allow him to concentrate on his fishing business. He and his family moved to Lautoka where the children were attending school. The fisher employed an Indo Fijian crew because of the difficulty of motivating his own relatives to work diligently. According to this fisher 'Government's affirmative policy is wasteful because the majority of indigenous Fijians were not yet ready for commercial fishing.' This fisher tried to make a fishing trip every week. Over the four weeks I was at the Fisherman's Wharf in Lautoka, this fisher was there on all occasions to offload his catch. The boat owner also complained that government support of community ventures disadvantaged the people with drive and purpose. This is an interesting point made by a successful indigenous Fijian commercial fisher who had started his operation through his own initiative. The fisher had started in the village and was now operating from an urban setting. His argument was that only those who are deserving of assistance should be helped because trying to help the community that is not ready is just wasting limited resources. Another boat owner (B43) agrees and argues that 'the low production amongst

indigenous Fijian fishers in the villages is due to the subsistence mindset and a lack of understanding of the requirements of commercial operations'.

**Table 6.11 Commercial fishing record for venture B53.**

Date	Distance to Fishing Ground (km)	Number of Fishers	Duration of Fishing Trip (hrs)	Catch (kg)	Income (F\$)	Market
10/09/81	8	6	5	144	121	Dealer 1
20/10/81	8	5	8	320	369	Dealer 1
13/11/81	40	5	6	262	314	Dealer 2
14/01/82	10	6	4	198	226	na
18/01/82	32	5	6	212	276	Dealer 2
12/02/82	32	6	4	192	244	Dealer 2
18/02/82	5	6	3	85	112	Dealer 2
26/02/82	32	6	4	241	317	Dealer 2
12/03/82	8	3	2	29	35	Dealer 2
28/03/82	5	6	6	320	384	Dealer 2
04/04/82	48	6	3	140	155	Dealer 2
17/04/82	56	na	6	195	263	Dealer 2
30/04/82	24	6	na	260	342	na
08/05/82	16	6	6	233	312	Dealer 2
23/05/82	56	6	14	109	122	Dealer 2
29/05/82	24	6	16	238	294	Dealer 2
12/06/82	24	6	2	130	168	Dealer 2
28/06/82	16	6	6	172	228	Dealer 2
11/07/82	24	6	4	230	285	Dealer 2
20/07/82	24	7	6	117	172	Dealer 2
03/08/82	16	7	6	200	279	Dealer 2
21/08/82	32	7	5	108	159	Dealer 2
04/09/82	16	7	7	344	450	Dealer 3
11/09/82	na	7	na	82	184	Dealer 3
02/10/82	na	7	na	344	510	Dealer 3
16/10/82	na	7	na	399	402	na
23/10/82	na	7	na	411	419	na
02/12/82	na	na	na	210	203	na
11/12/82	na	7	na	270	254	Dealer 2
17/12/82	na	7	na	441	437	Dealer 2
22/01/83	na	na	na	94	114	Dealer 2
19/02/83	na	na	na	187	292	Dealer 2
26/02/83	na	na	na	161	161	Dealer 2
18/03/83	na	na	na	100	124	na
23/03/83	na	na	na	170	81	na
09/04/83	na	na	na	236	246	na
27/04/83	32	6	96	137	223	Dealer 4
07/06/83	na	na	na	90	150	Dealer 4
11/12/83	10	na	48	74	120	na

na -not available

**Source:** Veitayaki, J., 1990. Village-level fishing in Fiji: a case study of Goma Island, MA Thesis, University of the South Pacific, Suva.

In contrast, fishing operations in the urban centres were run as proper business. In Labasa, the commercial fishers worked with hired hands and fishing was a full-time job. The hired hands either earned a wage of between F\$60 and F\$80 per week or were given a certain portion of the total catch per trip. With this type of monetary incentive, the fishers were urged to maximise

production. Fishers aligned with buyers that also provided ice, safe berthing for boats and contacts within the fishing network. Although these arrangements have their shortcomings, they were much better for commercial fishing than anything available in the villages.

The commercial fishers in Labasa know they make to have at least three fishing trips a month to break even. The fishers have a fair idea of the type of expenses they will incur and the range of prices they should expect. These calculations are important to any profit-making venture. The boat owners offer lucrative wage packages and incentives. In a typical operation, a boat captain is paid between 40 and 60 cents per kilogram for the catch, which is equivalent to an income of between F\$80 and F\$160 and F\$120 and F\$240 per trip. In addition, the boat captain usually shares with the crew all the proceeds from every fourth fishing trip. It is little wonder then that the commercial operations performed better.

#### **6.4.2 Cost effectiveness**

Cost effectiveness measures the relationship between the inputs and outcomes in dollar terms and also considers the technical quality and factors such as cultural sensitivity, ethics and social justice. Issues examined here include access to capital, loan repayments, benefits of family and individually-owned ventures, and the operation of commercial fishing vessels.

##### **Access to capital**

The capital that was required for the project was obtained from a variety of sources. For example, all of the fishers who took out FDB boat loans were required to place deposits of at least one-third of the total loan amounts. Raising these deposits was a major hurdle for the indigenous Fijian villagers, who often did not have the collateral required for commercial bank loans (FDB 1977). Some of the commercial fishers, like the owner of B31, arranged private finance while others, like the owner of B26, made cash payments. In other cases people used their retirement packages to make cash payments. Private sources of funds included financiers, investors, fish dealers and middlemen who provided the money and other capital. The repayment methods for the private funds included direct deductions when catches were



sold, the sharing of income on the basis of catch or simply providing a regular supply of fish to the fish buyer.

People's incomes were determined by the type of fishing equipment they used and their fishing consistency. Net fishers earned between two and three dollars per kilogram for their catch while the line fishers, because of their better quality fish, would receive around three to four dollars per kilogram. Deepsea red snapper (*pakapaka*) fetched between F\$5 and \$10 per kilogramme. Calculations based on these different fishing methods would determine the income level and the viability of the operation. Expenses varied with the type of arrangements people adopted for their operations and their locations. A communal fishing group in Kadavu for example, spent between F\$300 and F\$400 per trip on fuel, food, crew allowances and ice. In addition, the group spent between F\$400 and F\$500 per trip buying fish from the villagers. The group made an average income of around F\$1,100 per trip, which left little money for loan repayments, licences, and boat and engine maintenance. The costs were greater for this group but the system of buying fish from villagers ensured that villagers at least had a source of income and that they received some reward for their work.

In Labasa and Lautoka expenses averaged around F\$250 to F\$300 per trip and included fuel, crew wages, food and ice. The average catch was between 250 and 300 kilograms per trip and fetched between F\$625 and F\$750 if the catch was sold at F\$2.50 per kilogram, or between F\$875 and F\$1,050 if the selling price was F\$3.50. People in different areas differed in their ability to operate viable fishing ventures. As the owner of B29 pointed out 'Only the people who do not know what they are doing will not appreciate the costs involved in fishing operations'. Altogether there was no room for wasteful spending in the project.

### **Loan repayment**

At the time of the study in 1997, 72 per cent of the loans of the ventures in the sample (38 cases) had been repaid. This attractive picture however is due to the make up of the sample and not a reflection of the performance of the project (Section 4.5.1). These fishing boat owners, who are amongst the most

successful, had come to terms with the demands and discipline of commercial ventures (FDB 1977). The costs of the boats had increased from F\$5,000 in 1978, to F\$8,920 in 1981, to F\$18,000 in 1991 and F\$20,000 in 1992. The costs of the boats since 1991 were way above the \$12,000 that was considered the vessels' maximum capitalisation level (Walton 1991:28). In addition, the real costs were much more when the foregone opportunity costs of the boats that were beyond repair were taken into consideration. According to the owner of B9, 'Most of the fishing boats are derelict and in varying states of disrepair and decay by the end of the first five years'.

The quickest loan repayment time was between three and six months (B27, B43). On the other hand, in two of the cases studied (B1, B7), the loans which should have been repaid in four years had taken close to 10 years (Table 6.12). The reasons why some of the fishing groups were allowed such a long time to repay their loans were uncertain, especially when, by that time, the regular cost of boat maintenance had made the task even more difficult. Some of the boat owners have done well while some have had a mixed time. For example the owners of B17 and B19 had each been presented with a fishing boat by the Fisheries Division for their exemplary conduct.

Similarly some fishers had repaid their initial loans and purchased additional boats (B10, B12, B29, B38, and B40). There were also ventures that were now struggling after earlier brilliant performances. B7, a communally owned venture, had gone through three FAO boats but was struggling with a loan balance of F\$9,000 after 16 years with their fishing project. According to one of the fishers, these situations illustrated how the 'FDB has become a source of underdevelopment to the people'. However, this comment showed a lack of appreciation of the nature of assistance provided and, (see section on Leadership), the tendency to blame others for the people's own shortcomings.

**Table 6.12** Loan statements for some boat owners studied in 1997 (FS).

No	Cost	Loan	Deposit	Payment	Time	Remarks
B1	17,000	13,000	4,000	650	1991-1998	Loan balance of \$6,000, repossession likely
B2	16,000	11,000	5,000	Na	1991-1994	Loan repaid
B3	18,000	12,000	6,000	Na	1991-1993	Boat lost in hurricane, account not fully repaid
B4	15,000	7,000	8,000	Na	1991-1995	Loan repaid
B5	16,000	8,000	8,000	350	1991-1994	Fisher jailed, negligence, repossessed by FDB
B6	8,000	6,000	2,500	na	1985-1995	Loan repaid with FNPF loan, boat unused
B7	na	26,000	10,000	400	1981-1997	Loan balance \$9,000, repossession likely
B8	4,000	na	Na	na	1983-1985	Boat repossessed, two years no repayments
B9	10,000	8,000	2,000	700	na	Loan repaid, second boat
B10	17,500	7,500	10,000	na	1991-1996	Loan repaid, second boat
B11	na	7,000	7,000	na	1992-1997	Repaying loan, boat damaged in hurricane
B12	38,000	27,000	11,000	780	1994-1997	Loan balance of \$31,833, boat beached
B13	na	3000	700	600	1987	Loan repaid, second boat
B14	6,000	na	6,000	na	1995-1997	Boat resold for \$5,500, difficult joint venture
B15	na	12,000	Na	280	1991-1995	Loan repaid
B19	8,000	6,000	2,000	200	1988-1997	Loan repaid
B21	7,800	4,800	3,000	136	1984-1994	Boat repossessed with loan balance of \$14,000
B22	6,300	na	6,300	na	1983-1990	Boat stolen while awaiting repairs in Suva
B23	6,000	5,000	1,000	150	1982-1993	Boat damaged in 1993, loan balance
B24	15,000	12,000	3,000	400	1992-1997	Boat repossessed, loan balance of \$17,000
B25	7,000	6,200	800	251	1985	Loan repaid
B26	9,000	-	9,000	-	1986-1989	Loan repaid
B27	1,100	-	9,100	-	-	Recovered cost of boat in six months
B28	8,000	5,500	2,500	200	1989-1991	Loan repaid
B29	12,000	7,000	5,000	500	1990-1993	Loan repaid
B31	9,000	-	4,000	-	1993	Loan repaid
B32	18,000	13,000	5,000	250	1991-1995	Loan repaid
B43	10,000	-	10,000	-	1997	Recovered costs of boat in three months
B46	na	8,000	Na	na	1988	Loan repaid
B49	na	7,500	3,000	200	1989-1991	Loan repaid
B51	na	12,000	Na	260	1985	Loan repaid
B52	na	10,000	Na	250	1992	Loan repaid

Source: Veitayaki, 1998, Field data

Indigenous Fijian-owned ventures faced financial difficulties because the fishers were not prepared to meet the costs of repairs and maintenance. It was also common for indigenous Fijians to mistake their income for profit and overextend themselves. According to the owner of B28, fishers must set aside a part of the surplus made from sales to meet any shortfalls that may arise as a result of bad weather, low catch, high maintenance costs and personal difficulties. He argued that the 'lack of savings is a problem amongst indigenous Fijians who are dependent on their social networking and traditional safety net to meet their needs'. Unfortunately, this often resulted in repossession.

The owner of B28 regularly took small loans to purchase and stock up on spare parts and took time to learn some boat and engine repairing skills to reduce his expenses. The fisher emphasised that 'Commercial fishing is a

business and that not all good fishers can succeed as businessmen'. For more viable and sustainable fishing operations, this fisher suggested that boat operators 'be more diligent in their spending and management style'. In addition, 'The decision making should be firm and consistent with the objectives of the project. Fishers must avoid running into debt and should have some understanding of the workings of the vessels, engines and financial management practices, which require orientation and training'.

### **Benefits of family and individually-owned ventures**

All but one of the boat owners in the sample believed that the benefits of owning a fishing boat outweighed the costs. The use of diesel power resulted in cheaper running costs and easier maintenance (B13) which suited local fishing conditions. According to the owner of B27, 'It is the best boat I have used in my 13 years as a fisher'.

B25 was a typical family-owned venture. The vessel was obtained through a F\$7,000 loan from FDB. Expenses were around F\$200 per trip. Monthly repayment was set at F\$251. For every dollar earned per kilogram, the captain received 40 cents, while the crew were paid 20 cents and the remaining 40 cents was set aside for boat expenses. There was an average catch of 200 kilograms per trip, which was sold at F\$3 per kilogram for a gross income of approximately F\$600 per trip. The income was enough to meet the repayments and to provide some savings for contingencies. This family kept a month's repayment on standby for when fishing was not possible. The family's savings of F\$3,000 was used as deposit on a family truck.

Venture B49, another family-based operation had two vessels. The first boat was purchased with cash for \$14,000 in 1991. The second boat was paid for through an FDB loan of F\$7,500. The group made weekly repayments of F\$200, which was more than three times the amount required in a month. The group was part of the Overseas Fishery Cooperation Foundation (OFCF) operation in the Western Division, which fished for the export and quality local markets. The family group earned between F\$1,000 and F\$2,000 per trip. Under the scheme, the family group built three houses and a store, and

purchased fishing equipment, including a hydraulic system for fishing reels, and a VHF radio.

B50 was another family group venture. The group's boat was purchased with a loan of F\$5,000. The fishing group's income was between F\$500 and F\$1,000 per trip. The boat's loan had been repaid and the family had built four concrete houses with water tanks, bought two fibreglass boats with 40 horsepower outboard engines and helped support the children's education. The group was given a grant of F\$3,000 because of its exemplary record.

These cases showed that the boat building project did produce positive socioeconomic changes. The steady incomes allowed people to better their living conditions, participate effectively in the cash economy and meet other expenses. More importantly, these examples illustrate that indigenous Fijians like their Indo Fijian colleagues can be successful at commercial fishing if they maximise production and income and if those with the drive, commitment and skill are provided the opportunities to be involved.

#### **Operation of commercial fishing vessels**

The boats required capital investment and berthing facilities that were needed. For example, venture B29 belonged to a commercial fisherman in Labasa, who had started as a deck hand when he was 12 years old. The man had worked his way up from being a crewman, to boat captain and was now the owner of two fishing boats. The fisher employed six people and spent between F\$250 and F\$300 per boat on each trip for wages and supplies. The man was adamant that he would always remain a fisher because 'It is the only business I know'. In the late 1990s, in recognition of his skill and achievement, the man was chosen as Fiji's Fisherman of the Year. The fisher's boats had been repaid and the fisher was now trading in the purchase and sale of secondhand boats. Like most of the fishers in Labasa, this boat owner learnt through experience and sacrifice. According to him, 'No amount of training will prepare me better than my 18 years of experience as a fisher'.

Together with the others in surrounding areas, this fisher was planning to set up a fishery cooperative to offer repair facilities and secure berthing to their

members. Although still very much in its early stages, this plan is consistent with the self-help attitude that these fishers have demonstrated all along.

In another case, the owner of B32 had been a fisher for 27 years. He attended RFTP in 1990 and bought his boat for F\$18,000. The fisher paid a deposit of F\$5,000 and was required to pay F\$250 per month towards his \$13,000 loan account. The fisher repaid the loan in approximately four years, illustrating that although the project *per se* may not have been cost effective, some boat owners made a decent living. However, the commercial fishers were often constrained by the lack of appropriate infrastructure. This fisher agreed with the owner of B29 that, 'A major problem in Labasa is the lack of proper berthing space and theft. Boat owners are at the mercy of thieves when the boats are anchored in the river'. At the time of this interview, this fisher was repairing his boat, which had sunk at its mooring the previous night. Someone had tampered with the boat's ropes. The mechanical overhaul that was required after the mishap would take at least a week, during which time there would be no fishing. Thus the opportunity cost of poor infrastructure can be large.

B43 was owned by a family that had bought the boat from an Indian fisherman in Labasa for F\$10,000 in 1997. The boat was to supply fish to the family store in Dreketi, which is a good fishing area. The venture was so successful that the capital costs were recovered in three months. According to the family spokesman, fishing had a much higher return than the retail business. The fishing trips were about eight days long and the expenses averaged F\$200 per trip. Villagers who operated the vessels were paid 80 cents per kilogram for the catch.

The communal, family and individual ventures were operated and managed differently. The communal activities were rarely as cost effective as the family and individually-owned ventures due to issues such as leadership, focus, and business and fishing skills. These cases also showed how the fishers were independent of the system of acquiring boats that was formally devised by government and the FDB. The commercial operations illustrated the

profitability of the ventures in different areas and the facilities that are required to ensure that fishers maximise their production.

The performance of the commercial fishers in Labasa (Northern Division) and Yasawa (Western Division) provided encouraging signs that were different from those in other parts of Fiji. The lessons to be learnt from these cases included the influence of people's background, ownership style and management skills. The relocation of the majority of the vessels to Labasa seems to have been determined by various market forces primarily influenced by the proximity of good fishing grounds to good markets. Given the numbers of boats that were being lost by the RFTP trainees, it is likely that the majority of the boats in Labasa came from the Eastern and Central Divisions.

### **6.4.3 Effectiveness**

Effectiveness examines the extent to which programme outcomes have achieved the objectives of the programme and the extent to which it can be claimed that the project caused these outcomes. In this section the issues explored include meeting the objectives, leadership, equity, human capacity and new opportunities.

#### **Meeting objectives**

Seventy-four per cent of the people involved in the study (39 cases) realised the objectives they had set out to achieve through the project. These objectives included the utilisation of the fisheries resources to provide a source of income, securing a better form of transportation, accessing further rural development initiatives and improving people's dwellings and living conditions. These aims differed from the official government objectives in the development plans and policy documents (see Chapter 5), which emphasised the development of small-scale artisanal fishery through the introduction of new motorised fishing boats and improved fishing gear and methods. Other government programme objectives, such as the processing of export items, establishment of marketing and transportation systems, ice making and cold storage plants and improvement of landing and berthing facilities in the main fishing centres (Fiji, Central Planning Office 1970, 1975, 1980, 1985) were not known to the local people.

In a number of cases, the fishing commenced simultaneously with the buying of building materials for the construction of houses, which was the main objective of the people involved. Some of these ventures faced cash flow problems and before long found themselves in debt. With the mortgage on the boats and the compound interest rate of 5.5 per cent, indebtedness increased quickly, until the fishers were disillusioned with their position. In these cases, the fishers disregarded their investment of time, money and energy committed to the boat and treated the experience as a loss only for government.

### **Leadership**

Leadership was considered adequate in 66 per cent (35 cases) of the sample. Individual and family-owned ventures were generally well led by people who were committed to fishing as their chosen income-earning activity and were fully aware of the requirements of viable operations and the consequences of mismanagement. With the communal projects, lack of good leadership was a problem that required maturity, commitment and a strong sense of service to the community. Managing communal projects was not easy because the economic interest of the project needed to be carefully balanced with the cultural requirements of village life (see Chapter 3). In addition, good leadership was needed when social problems of interpersonal relationships caused divisions within the group.

B2 was a successful communal venture. It was led by an RFTP trainee who realised the importance of sharing with his people all of what he had learnt and knew about the project and their venture. The fisher advised his people of the need to work hard together and warned of the social tension and conflict that the venture would cause. The trainee urged the people to persevere and warned, 'Failure will mean a waste of the time we have put in and all the money we have paid as deposit and repayments'. The trainee made himself the leader of all development work in his village 'to ensure that village elders do not suffocate the development work with traditional obligations and demands'. The man devoted four years of unpaid labour to see the village venture through to its completion. Despite all this hard work and sacrifice, some of the villagers still accused him of mismanaging the operation and had him replaced during the period when they were repaying their loan. However,



the man returned to lead the venture when 'the boat broke down and the people in charge did not know what to do'.

In another instance (B4), a family member, who worked as a civil servant, paid the deposit for a boat and invited his relatives to operate the venture. The family sent another member to attend the RFTP. The civil servant reminded his people that the boat venture was to fund itself. However, shortly after the operation started, the trainee mismanaged the venture. He was replaced. The civil servant also realised that his relatives did not regard the loan repayments as a priority so he arranged to travel from where he worked in Suva to meet the boat in Lautoka and obtain the repayment money every week when the boat came in. This was done until the relatives learnt to make repayments every time they sold their catch, which indicates that people's failure to meet their repayments was more often the result of priorities rather than the inability to pay.

Leadership issues seemed prominent in another two well-established fishing communities that had been involved in commercial fishing for over 15 years. These communal ventures were facing financial difficulties because the people had lost interest in the local leadership and were no longer working as hard as they used to. Interestingly, the trouble followed attempts in both cases to expand their operations with the acquisition of new boats. The threat of collapse of these ventures was sad because over the years these operations had been acknowledged publicly for their achievements. However, the people had overextended themselves and so were unable to meet their repayments. These experiences exemplify the tendency amongst indigenous Fijian-owned ventures to make decisions without careful rationalisation.

### **Equity issues**

Eighty-five per cent of the total respondents (45 cases) believed that the benefits from the ventures had been distributed equitably. With the commercial operations, the people were rewarded for the work they contributed. This was not the case with the communally owned cases, where fishing was part of community work. Although the people volunteered their labour (B21, B22, B24), it was expected that everybody would contribute.

B53, for example, was organised so that each *mataqali* would take a turn in providing the fishers on a weekly basis. The villagers were not paid for the work they did for the community venture although all of them were artisanal fishers. After the initial hype surrounding the venture had subsided, the arrangement collapsed and the fishing was left to a handful of people. Although the venture earned significant income at the start, earnings decreased continually until it was impossible to repay the loan (see Table 6.12). The boat was about to be repossessed by the FDB in the mid 1980s when a hurricane uprooted it from its mooring and deposited it in the middle of a mangrove forest, where it remains today.

B3 started as a personal investment in 1991 and was later extended to involve family members. Fishing was organised on a rostered basis, with each of the three family groups taking turns to fish for a week (Monday to Friday). The group fished for *pakapaka* during the day and dived at night. The highest weekly earning was F\$2,300. During the first year of operation, no wage was paid to anyone. However, in the subsequent years each of the five people on a weekly trip was paid a wage of F\$50. Fish was occasionally sold locally for F\$2.50 per kilogram, bringing in between F\$700 and F\$800 per trip. *Pakapaka* was sold to a local resort for F\$10 per kilogram. According to the group leader, loan repayments were up to date at the time the boat was lost during Hurricane Kina in 1993. However, the boat was not insured and was not replaced.

At the time of the loss, the family group had started buying housing materials for their housing scheme—their main objective. The group was also facing financial difficulties. Although only the Treasurer and the Chairman were supposed to handle the finance, financial control was wanting, as different group members were in charge of the activities and income each week. Some members were enjoying the benefits of the project even while the main objective was being pursued, a common feature of these types of operations.

Given the climatic conditions in Fiji, it was a wonder why risks such as hurricanes and losses at sea were underestimated. As a number of these cases show, financial difficulties are inevitable when the physical risks associated with fishing are not considered important. In another case, the

chairman of B12 claimed that they were still waiting for the insurance company to check their vessel, which had been beached by a hurricane some 10 months before my visit to the village. The fisher complained that the time taken to process insurance claims represented time away from fishing and compounding interest on the loan balance. In this particular case, the arrears were running close to F\$32,000 and it was unlikely that the insurance would save the venture. In a number of cases, such as B11 and B36, however, the insurance had rescued the ventures from financial ruin.

People were not paid because they believed that such ventures were a means to some other desired end, such as the improvement of transport links or the participation of their community in a commercial enterprise that needed to be nurtured. For these reasons, indigenous Fijian communal projects were harder to organise over time. With the communally owned ventures, the distribution of benefits depended on how the venture was doing and the strength of the leadership. Communal ventures that failed brought to an abrupt end the aspirations that people associated with these activities.

### **Human capacity**

Every fisher interviewed mentioned the lack of human capacity within this project. Although RFTP provided basic training in boat building, accounting, bookkeeping, engine and boat maintenance and navigation, the training was inadequate. The trainees did not gain enough confidence in these subjects and were unable to train their fishing group's members. There is a need for more capacity in the villages in the areas of accounting and good business practices, engine and boat maintenance, and the management of fisheries resources.

The success of the fishers in Labasa and Yasawa has interesting implications. Many of the boat owners in these areas had started fishing from an early age and had acquired practical skills that served them well. The fishers were competent in all areas of boat operations and they looked after their money, interests and each other.

The assumption made by government officials that having a person in every group attend a training programme was sufficient for the successful operation

of the venture proved ill founded. In some cases the trainees were too immature, incompetent and inexperienced to effectively manage fishing operations (see Appendix 3). The result was a high turnover in the operational teams in charge of the ventures. Questions were also raised on the relevance of the RFTP. It was difficult to see how six months of training could change young villagers into commercial fishers and competent community leaders.

### **New opportunities**

The project allowed for the setting up of support for parents of school students (B2, B15, B16, B17, B18, B19), and improved transportation (B2, B12, B51). In some of the villages, funds were set aside to meet communal obligations and levies (B2, B46). The fishing ventures also provided funds for the establishment of village stores (B2, B13), new buildings (B10, B15, B17, B19, B48, B49), water supply systems (B2, B17) and the raising of livestock (B18). The owners of B25 used their savings to buy a truck, while the owners of B29 and B34 were now trading in the purchase and sale of secondhand boats. Some of the people involved in the project (B1, B2, B10, and B23) had moved from their villages to urban centres, where they had gained employment. In these cases, the project that was supposed to involve rural people in the cash economy had facilitated the movement of productive people out of rural areas into urban centres, representing the movement of capital back into urban areas, which related to Black (1991) modernisation paradoxes.

In case B5, the boat owner provided free and easy services to his folks that were culturally noble but not necessarily good for his venture—demonstrating the conflict between commercial reality and social kinship systems. In addition, the types of pressure encountered by these people require experience and skills which most of the people involved in the project lacked. In case B36, the change in organisation resulted in difficulties. People who operate commercial ventures in villages need to be convincing to win people's confidence and they must be seen to be trustworthy. Again, promises must be backed up with action. Otherwise, people can quickly lose hope in a venture. The project had stimulated a great deal of economic activity and introduced new horizons to

the people involved. It also created new jobs in related service areas such as the markets, service stations, shops and government departments.

#### **6.4.4 Efficiency**

Lastly, efficiency establishes the extent to which the programme inputs are minimised for a given level of programme outputs. The issues discussed here include institutional arrangements, appropriate technology, and intersectoral cooperation.

##### **Institutional arrangements**

The establishment of appropriate institutions is important if rural development projects are to succeed because of the nature of the development activities and the different actors involved. Not only that, there has to be a clear understanding by the communities of their roles and responsibilities and those of government and development agencies. Some of the boat owners complained that the government and FDB officials did not look after their interests. For example, the owner of B11 argued that FDB officials were not in touch with reality. He mentioned that there was no allowance for deferred loan repayment when fishing was impossible, such as when the boat was being repaired. The truth is that there were allowances for these eventualities but the fishers had exhausted them all.

The availability of a good market was also a serious concern. Commercial fishing is dependent on the market, which needs to be better developed in many parts of the country. According to the owner of B10, who had attended a training workshop on marketing organised by the OFCF, the concept was ideal because it promoted high quality catches and arranged for markets that paid higher prices. However, there were times when these markets were flooded and the fishers had to revert to selling at the local market or on roadsides. This fisher reckoned that 'Most people in the villages are still unaware of the requirements of commercial fishing. Indigenous Fijians, for example, use the excuse that commercial fishing is new to justify their incompetence'.

People in the communities also need to understand the rules of committees. This has been a major problem because although there were committees in all project cases, they did not work well. This is where capacity building and

training is needed to ensure that committees are not playing only ceremonial roles. Another problem was the inability of the committees to perform their duties. Consequently, it did not take long for someone to hijack the project for their own purpose. It was also common to find revisions and even reversals of decisions that affected the development projects.

### **Appropriate technology**

Some of the fishers were happy with the vessels because they wanted a bigger fishing boat that would help increase productivity. The boats allowed the fishers to fish in almost any part of the country and to take their catches to the main centres. On the other hand, some people saw in the boat the chance to own their own boat for transport purposes. The boats were bigger than punts but were much cheaper to run, and so were ideal for small island communities.

Although the boats were cheaper to run, they were expensive to buy. A lot of the people eventually realised that owning motorised boats was different to owning punts. The ventures located in areas far from the main centres faced more hardships than those in nearby areas. Nevertheless, the project enabled most of the trainees to operate diesel-powered boats, which was a far cry from the nonmotorised punts that most of them were used to. These people had little experience in the upkeep of their vessels, engines and the financial management of the operation.

Some of the fishers (B10, B27, B33, and B36) preferred a slightly longer version of the FAO-designed vessel, particularly if it was to be used for deepsea fishing. The space inside the boats was restricted, particularly when the iceboxes were larger. According to the owner of B10, the FAO-designed 28-foot boat was not suitable for deepsea (offshore) fishing because, for that type of fishing, at least four or five people were needed. Bunks, kitchen and living space were therefore required because of the longer fishing trips that were envisaged. However, the FAO-designed 33-footers were selling at over F\$52,000 in 1992 which made them too expensive for most of the artisanal fishers.

An interesting aspect of the study concerns the question of the suitability of the FAO-designed 28-foot fishing boat over locally designed half-cabin punts. The boats have similar capacities. However, a fully fitted locally designed half-cabin fishing boat built in Ba or Lautoka in 1997 with a 40 horsepower outboard engine cost about F\$10,800, which was about half the price of the FAO-designed 28-foot boats built in 1992 (F\$20,000) and the F\$25,526 in 1997. The local half-cabins are also more suitable for inshore fishing as they can be used in shallow areas and do not require smaller punts that are used with the FAO-designed boats because of the lack of proper berthing facilities. The lack of berthing facilities was a major cause of the high number of losses in the Central and Eastern Divisions. The widespread use of the locally built boats in Ba and Lautoka provide interesting alternatives that should be properly studied.

#### **Intersectoral cooperation**

The people were appreciative of the role of the FDB in getting them to secure loans but were not impressed with the service they were offered. The Fisheries Division and the FDB worked closely with the other line ministries and aid agencies to provide people with the opportunity to participate in commercial fishing. Although the internal arrangements worked well, there is a need to review some of the aspects of the cooperation to ensure efficiency. For this project, it seemed that the Fisheries Division officials had intended to have all of the trainees secure a loan to purchase a boat. There was little thought given to how well the trainees would meet the demands placed on them. Giving boats to these people was a risk that placed a burden on all parties including these trainees, the people they represented, the Fisheries Department and FDB.

This is where evaluation assessments should have been conducted to monitor progress and provide timely advice on what should have been done. The fishers needed to do their part to keep regular contact with the relevant government agencies. The provision of preferential finance alone did not mean successful indigenous Fijian business because preferential finance required a certain level of support, advice and supervision that was not adequately provided (Qarase 1988:238). In fact this preferential financing can result in the

dependency mindset that has a damaging effect on the development people undertake. People in these situations always expect government to be around to ensure that everything is satisfactory. It is when this assistance is not received that people give up and forfeit all they have achieved and worked on up to then.

## **6.5 Conclusion**

The boat building project was a good rural development project. Its implementation, however, highlighted some of the problems that affected the outcomes of this project. There were different objectives pursued at the different levels. The Fisheries Division, for instance, emphasised the increase in artisanal fisheries production at the national level and discouraged the use of the boats for transportation. With the people, transport and the construction of houses were emphasised as major objectives. The Fisheries Division also encouraged deepsea fishing, which was different from what the majority of the people were familiar with. The Ministry of Fijian Affairs and Rural Development, in the meantime, was encouraging the involvement of indigenous Fijians in the project to enhance their participation in the national economy. Likewise, the Ministry of Youth was promoting its own mandate of involving the youth in income-earning activities. These objectives were achieved in most places but the situation was complicated by the sociocultural and traditional context in Fiji. In addition, such close government attention created the tendency to rely excessively on government handout.

The costs and benefits to these different groups should be carefully studied, while the risks need to be adequately covered.

It was evident that the indigenous Fijians and the Indo Fijians performed differently in the project. Indigenous Fijians in general were poorly prepared and demonstrated dependency and handout tendencies. Indo Fijians, on the other hand, were experienced and regarded the project as a natural progression into something better to enhance their fishing. Indo Fijians lived in urban centres, such as Labasa, and had commercial fishing experience. The indigenous Fijians, on the other hand, lived in villages where they were subjected to communal pressures and had little experience apart from



subsistence fishing. The villages were also far from the main services that are available in the urban centres. Furthermore, while the Indo Fijians worked individually, indigenous Fijians worked in much larger groups.

It was interesting to see how the indigenous Fijians eroded the commercial profitability of their ventures by subordinating commercial considerations to those of traditional obligations, which in many instances provided little or no monetary compensation for favours that required the use of their time and vessel. Although such contributions were influential to the continued operation of the ventures, the tradition hindered the viability of the operations. Indeed, the ventures that were based on that type of arrangement usually failed, despite all the savings associated with volunteered labour.

The evaluation highlighted the performance levels in different parts of the country. These factors affected the costs of operating the boats and of course influenced the net returns. Moreover, the use of the boats for transport was also an important feature in different areas. Commercial fishers in Lautoka and Labasa performed a lot better than their counterparts in the Central and Eastern Divisions. The evaluation showed that development projects require a certain minimum level of infrastructural development. Otherwise, the technology will be misplaced and the issues of viability will need to be reconsidered. This is why the performance of the project was markedly better in some parts of the country than in others.

## 7. Case study 2: the seaweed farming project

### 7.1 Introduction

The seaweed farming project was also part of the Fiji Government's strategy to generate further employment opportunities in the production and processing of marine products during its Eighth and Ninth Development Plan periods (1981–90). The project was a part of the Rural Aquaculture Extension Programme to promote 'fish' farming as a viable business and a source of employment in the rural sector. Seaweed farming was a private sector initiated and government-backed rural development activity that was to involve rural communities, particularly indigenous Fijians, in the economic activities of the country.

In the villages and the local communities, seaweed farming was a means to a steady income that people required to meet their needs and obligations. The technology was thought ideal for the villagers who were deemed prepared for such a commercially important and export-oriented activity. However, about eight years after its introduction into Fiji in 1984, the industry collapsed and the villagers returned to their traditional village life. Despite the great promises, the seaweed farming project was a dismal failure.

At the end of 1997, seaweed farming was again revived in the communities where it had been undertaken previously. This time the project was much bigger with more financial support from a government-funded rural development programme. Even then, the signs were not good and the results disappointing. This was when people raised questions as to how projects can be better implemented. There were questions regarding the problems that need to be addressed and the ways of doing these?

This chapter describes the seaweed farming project and discusses the comments that the people involved in it made on its outcomes. The chapter summarises the evaluation of the seaweed farming project using the performance criteria and element questions described in Chapter 4. The evaluation also ascertains the extent to which factors such as planning and public consultation, economic considerations, sociocultural factors and the role

of institutions related to the intended impacts of the projects, the actual results and the reasons for the difference. The evaluation also highlights the problems relating to the design of the project and its suitability given the sociocultural position of the indigenous Fijians who were targeted. The chapter also highlights the problems that need to be addressed to improve overall performance and enhance results for similar development activities in the future.

## 7.2 The seaweed farming project: background

The cultivation of *Kappaphycus alvarezii*, commonly referred to within the industry as *Eucheuma cottonii* (Pickering 1996:1), has been popular throughout the Pacific Islands. The technology was borrowed from Southeast Asia and was widely promoted throughout the region, where its low technological and capital requirements and nominal environmental impact (South 1993b:692) seemed to have a lot of promise. Seaweed farming is relatively simple and less risky than fishing. It was to provide a welcome source of income in the villages as well as boost foreign exchange earnings for the countries (Ram 1991:5). Moreover, seaweed farming would blend into traditional village life, allowing the farmers to plant seaweed, earn regular income and attend to their other activities.

Seaweed farming trials were carried out unsuccessfully in Fiji in the 1970s using Philippine seed stock. Then in 1984, a new trial programme using seed stock from Tonga was established. Coast Biologicals Limited, a New Zealand company, was instrumental in this new venture to commercially produce seaweed. Financial support was provided by the Commonwealth Fund for Technical Cooperation (Luxton *et al.* 1987:361). The success of these later trials led to commercial seaweed production in Tavua and Rakiraki in late 1985 and in Kaba, Kiuva and Rewa in 1986. These farming areas have clear sandy spots that are sheltered from strong winds, currents and freshwater, conditions which are conducive to seaweed farming (Luxton *et al.* 1987:360; Foscarini and Prakash 1990:5–9). The ideal farming conditions include water temperatures of between 25 and 30 degrees Celsius, salinity of 28 parts per thousand, and clear sandy areas with moderate water movements. In addition,

the quick time to maturity made seaweed farming particularly attractive. The possibility of a crop every six to eight weeks was particularly enticing.

Under the project, the villagers were to grow the seaweed, harvest the crops when mature and sun-dry them for three to four days. The dried seaweed was then sold to the company, which exported the baled commodity. Dried seaweed is used in the manufacture of *carrageenan*, the gum-like starch extracted from processed seaweed that is used widely in the food processing, cosmetics and pharmaceuticals industries (Fiji, Fisheries Division 1998b:6).

Technical assistance and extension services were provided by Coast Biologicals Limited and the Fisheries Division.

By 1986, 160 seaweed farms had been established throughout the country (Fiji, Ministry of Primary Industries 1986:17). Production exceeded 200 tonnes, with exports standing at 173 tonnes (Table 7.1). In 1987, a total of approximately 260 farms had been established, with total exports increasing to approximately 217 tonnes (Adams and Foscarini 1990; South 1993b:695). The buying price for dried seaweed was F\$631 per tonne and Coast Biologicals Limited was purchasing dried seaweed at prices ranging from F\$350, F\$450, F\$550 and F\$650 a tonne, depending on the quality of the product, which was determined by the moisture content (Prakash 1987:2). However, the effects of Cyclone Bola in 1987 and the political events that year wiped out about 50 per cent of the crop (South 1993:693). In May 1988 Coast Biologicals Limited, the sole buyer of Fiji's seaweed, withdrew from the country. The main reasons were apparently insufficient and inconsistent supplies of dried seaweed, the strengthening of the New Zealand dollar against the Fiji dollar and the unstable political atmosphere in Fiji following the 1987 coups. However, these reasons were never confirmed because of the company's refusal to be involved in this study.

**Table 7.1 Fiji's seaweed exports between 1985 and 1992.**

Year	1985	1986	1987	1988	1989	1990	1991	1992
Tonnes	30	173.41	216.89	60.30	80.34	87.41	24	48
Av. Price/mt (F\$)	na	780	631	350	500	500	400	350
Est. Value (F\$000)	na	135.29	136.87	21.11	40.21	43.71	9.6	16.8

Source: Veltayaki, 1999. Compiled from Ram (1991), Fiji, Ministry of Primary Industries (1985, 86, 87, 88, 89, 90, 91, 92) Annual Reports.

By July 1988, only 33 seaweed farmers remained. Exports in that year stood at only 60.3 tonnes of dried seaweed and prices were around F\$350 per tonne (Fiji, Ministry of Primary Industry 1988:13). The Fiji Development Bank (FDB) withdrew its support in the same year because of poor loan repayments.

Production increased slightly in 1989 following increases in prices, allowing for the export to Copenhagen of 80.34 tonnes of dried seaweed. The project was revived through the combined effort of the Food and Agriculture Organisation (FAO), the South Pacific Aquaculture Development Project (SPADP) and the Fisheries Division, with the financial backing of the New Zealand Government. Marketing was done through Fiji's National Marketing Authority (NMA) and the Marine Colloids Division of the Food and Machinery Corporation (FMC), one of the principal manufacturers of *carrageenan* (Fiji, Fisheries Division 1998b:6).

In 1990, Seaweed (South Pacific), a joint venture between local Fijian private shareholders (30 per cent) and Australian, New Zealand and American private shareholders (70 per cent), was formed to handle the marketing of seaweed in Fiji. The company agreed to provide the farmers with markets, technical assistance and planting materials. The company planned to have its own farms and had set up a five-hectare farm in Nanuca, near Savusavu. Seaweed (South Pacific) employed 40 people, a third of whom were women (Foscarini and Prakash 1989:4-5). The company also set up collection centres in Moturiki, Kiuva, Kasavu and Lautoka. Seaweed (South Pacific) was welcomed by the Fisheries Division because it allowed the Division to concentrate on the development of seaweed farming areas and applied research. However, the new company quickly ran into financial difficulties and withdrew in 1991, abandoning all of its planned activities. The NMA was again left with the responsibility of marketing Fiji's seaweed (South 1993b:693).

In 1992, the Fiji Government handed marketing responsibilities to another local company, Ocean Trading Limited. This arrangement also did not last because of persistent quality problems, particularly the exceptionally high moisture content (caused by insufficient drying), which led to the rejection of consignments by the overseas buyers. This resulted in cash flow problems, which meant that the growers were not paid in time. The sequence of 'start-stop' developments in the industry led ultimately to the loss of confidence by

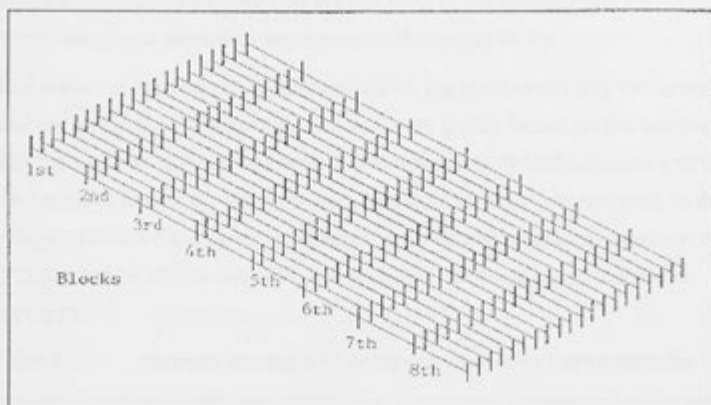
seaweed farmers who then abandoned their seaweed farms in search of other income-generating pursuits (Pickering 1996:1).

Seaweed culture in Fiji ceased in 1993, for reasons 'that have not yet been documented or analysed' (Pickering 1996:1). The end came unexpectedly, as there were unharvested crops and unsold dried seaweed left with the farmers after the industry collapsed. The industry was hampered by the volatility of the international seaweed market, with world prices fluctuating between F\$350 and F\$650 per tonne (Table 7.1). The seaweed farming experience has shown that *Eucheuma* farming was technically feasible but needed to be economically worthwhile to be viable as a rural development activity (South 1993b:693).

### **7.2.1 Seaweed Farming and Processing Technology**

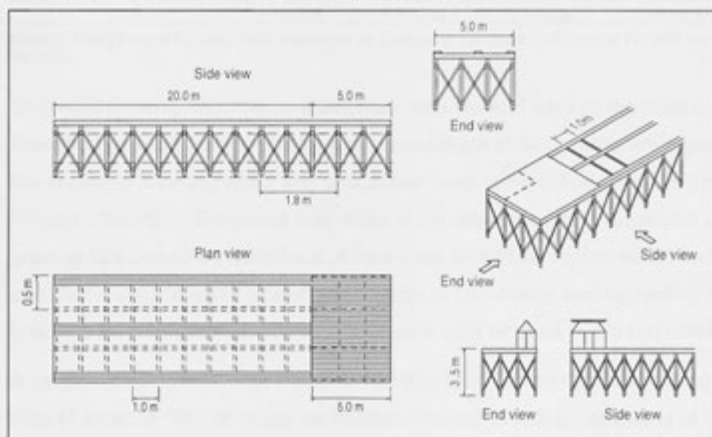
The most commonly used seaweed farming method in Fiji was the off-the-bottom method (Foscarini and Prakash 1990:11). This involved the use of wooden stakes, which were five to ten centimetres in diameter and between one and 1.5 metres long. The wooden stakes were firmly driven into the seafloor some 20 to 25 centimetres apart, in rows five metres apart from each other (Figure 7.1). These stakes were connected by three-millimetre polypropylene ropes, forming the line. Attached to the lines were usually 30 pieces of raffia, to which the seed stocks were firmly tied. Each piece of seed stock weighed about 150 grammes. A five-metre line would have around 30 plants. The line was at least 20 to 30 centimetres above the seafloor, to prevent the crop from touching the sand; and a similar depth below the surface at low tide, to avoid exposure to direct sunlight.

**Figure 7.1** An off-bottom farm layout.



**Source:** Foscarini, R. and J. Prakash, 1990. Handbook on *Euचेuma* Seaweed Cultivation in Fiji, Ministry of Primary Industries, Fisheries Division, Suva:26

**Figure 7.2** Drawing of a drying rack with dimensions.



**Source:** Foscarini, R. and J. Prakash, 1990. Handbook on *Euचेuma* Seaweed Cultivation in Fiji, Ministry of Primary Industries, Fisheries Division, Suva:34

Seaweed grows quickly and can increase its body weight tenfold by the time it is ready for harvesting in six to eight weeks. The farming period should be no longer than eight weeks, otherwise the plants become too big and heavy and break off the line. Harvesting involves the removal of mature seaweed plants

from the lines by untying the raffia knots or by breaking off the plants. Those plants that prematurely break off the line drop to the seafloor and rot. Moreover, plants older than eight weeks take longer to dry.

The weekly cultivation schedule depends on the number of days the farmer spends on the farm (Table 7.2). The schedule is also based on the assumption that the weather remains favourable, that there is sufficient sunshine and that the farmer is free to do whatever seaweed farming activity is required. In the villages, however, the farmers' freedom to do as they please depends on other factors such as village activities, the availability of punts, seed stock and drying racks.

**Table 7.2 Seaweed farming with 4-day and week-long work schedules.**

4-day schedule					
Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Harvest 40 lines	Replanting and tending	Replanting and tending	Consolidating and selling		
Week-long schedule					
Harvest 20 lines	Harvest 20 lines	Replanting and tending	Replanting and tending	Replanting and tending	Consolidating and selling

Source: Foscarini and Prakash 1990. *Handbook on Eucheuma Seaweed Cultivation in Fiji*, MPI and FAO, Suva:28

Seaweed farming requires constant maintenance and care of the plants.

Seaweed plants that are not regularly cleaned are slow growing while parts of the seaweed showing white and pink areas have to be culled (Foscarini and Prakash 1990:29). Detached lines have to be refastened and restocked while grazing fish should be fished out. A new crop should be replanted immediately after harvesting to allow a continuous cycle of harvesting and replanting and enable a farmer to harvest up to five times a year or once every two months.

A single farmer can handle a 320 or 480-line farm, which can cover up to a third of an acre. The farm can be divided into eight blocks, consisting of 40 lines for a 320-line farm or 60 for a 480-line farm, which means that the farmer can plant and harvest a block each week (Foscarini and Prakash 1990:27). A farmer working four days per week can harvest 10 to 15 lines per day.

Drying racks are made of sarlon netting to allow maximum exposure and good ventilation (Figure 7.2). An area of 100 square metres (20 metres x 5 metres) can dry approximately 80 lines of mature seaweed. With eight to nine hours a



day of sunshine, the drying process takes between three and five days. Seaweed, which needs to be evenly spread and regularly turned, has a 10:1 wet to dry weight ratio, but this worsens if the dried seaweed is affected by rain. Rain is a problem because it leaches the salt which gives the dried seaweed weight. Dried seaweed is packed in bags and taken to the collection sheds as soon as possible to be baled to prevent the reabsorption of moisture.

Successful farm management demands accurate record keeping of daily expenditure and income. Based on the 1990 selling price of 50 cents per kilogram of dried seaweed, a farmer with a 320-line farm could expect to collect F\$60 per week while someone with a 480-line farm would make F\$90 per week. A 320-line farm could provide 10 lines per day, each of which weighs about 30 kilograms, providing a total of 1,200 kilograms of wet seaweed or 120 kilograms dry weight. After eight weeks, each line of about 30 kilograms of wet seaweed could provide three kilograms of dried seaweed (Foscarini and Prakash 1990:38). Consequently, a farmer's cash flow could on average be about F\$480 for every eight weeks of operation.

In 1990, the amount of money needed to start a seaweed farm with 320 lines was approximately F\$185, compared to F\$271 for a 480-line farm (Foscarini and Prakash 1990:23). These costs could be reduced to F\$81.50 for the 320-line farm and F\$120.50 for a 480-line farm if local materials were used to replace the posts, u-nails and galvanized wire purchased from the stores. In addition, tools worth F\$128.50 are needed. The FDB provided financial assistance to farmers, but expected a deposit of 33 per cent of the total loan and also charged an eight per cent interest rate (Foscarini and Prakash 1990:25).

### **7.3 Participants assessments**

The main study sites for the seaweed farming project were in Kaba, Kiuva and Malake on Viti Levu, Namuka and Nakobo in Vanua Levu, and Vadravadra in Gau (Figure 4.2). The main centres of seaweed farming in Fiji were in Kiuva and Malake. However, these locations were developed at different times and were therefore based on different principles. While individual families owned

the farms in Kiuva, the ones in Malake were owned by extended families. In Kaba, a retired civil servant set up a company to operate the venture.

Community groups conducted seaweed farming in Namuka and Nakobo and in Vadravadra. In all of these places, people had expected a productive economic activity, but this did not eventuate. Production was low and was not strictly controlled. This was probably why companies owned the farms at Kaba and Nanuca because it was easier to control production.

A total of 44 seaweed farmers and farming groups (referred to in this study as S1 to S44) formed the sample in this research. The sample represented 17 per cent of the 260 seaweed farms that were under development or in production in 1987, and covered the full range of people and places that were involved in the project. In Kiuva, and Malake the interviews were with individuals but a series of group meetings were also organised (Table 7.3). In the remainder of the study locations, group meetings were organised because the farming was conducted in communal groups. The sample covered all the seaweed farming units that were represented in the villages at the time of the survey. The only people who were not involved were the ones who were not in the villages when the survey team visited.

**Table 7.3 Seaweed farming project sample.**

Location	Type of Activity	Number of Interviews
Kiuva	Individual/Group	25
Malake	Individual/Group	15
Kaba	Group	1
Vadravadra	Group	1
Namuka	Group	1
Nakobo	Group	1

Source: Veitayaki, 1996. Field data

Most of the respondents came from Kiuva and Malake. There were 25 cases from Kiuva and 15 cases from Malake. Kiuva, Kaba and Malake were the main farming centres close to the main urban centres. Farmers in these areas were provided the best support facilities. Seaweed farming outside of Viti Levu was sporadic and disorganised. For instance, the farmers in Vadravadra and Namuka had managed only one harvest in the six months before the farms were abandoned.

Kiuva is an ideal seaweed farming area. It is located on the southeast coast of Viti Levu and is well-sheltered from the nearby Rewa River estuaries and the surrounding open ocean. It is close to the urban centres of Nausori and Suva, where materials needed for farming can be easily purchased. In addition, the proximity to the Fisheries Division offices in Wainibokasi, Nausori and Suva allowed for a close working relationship with government officials and the representatives of the marketing companies. Transportation costs are much less in Kiuva than in other areas that are further from the main urban centres.

Despite these relative advantages over more remote farms, most of the farmers in Kiuva (S1-S24) achieved only marginal success, as seaweed was only one of the many possible sources of income available to the people. Seaweed farms were close to the shore. The average farm size was between 200 and 500 lines, occupying between 0.2 and 0.4 acres, while the average income ranged from less than F\$50 to F\$100 per week. Unlike Malake and Kaba, the drying sheds in Kiuva were located on shore. Although the farmers in this village were happy with seaweed farming, their performance needed to be improved to contribute to the national goal for the industry, which was to maximise production to establish a reliable source of seaweed in Fiji which was internationally competitive.

Seaweed farming in Fiji started in Malake where cases S25-S41 were interviewed. The national office of Coast Biologicals Limited was located on the mainland, Viti Levu, near Malake. The average annual income for the farming units in Malake was around F\$200 per week, with farm sizes of between one and two acres each. Seaweed farming was conducted on reef flats far away from the village and the drying racks were erected above the water close to the farms. Good motorised boats were essential. Coast Biologicals Limited arranged with the FDB for the seaweed farmers in Malake to purchase fibreglass boats with outboard engines. However, the cost of fuel was a major concern because of the long distances between the village and the farms.

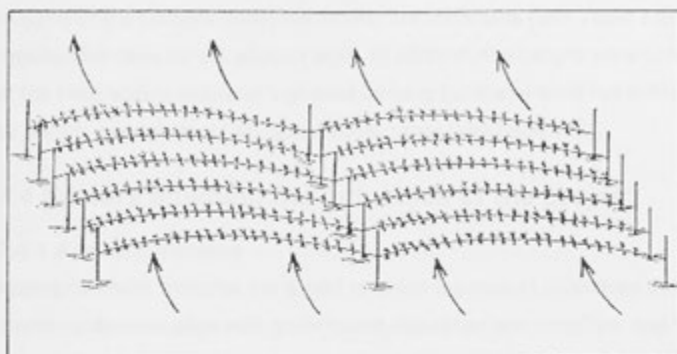
As in Malake, the seaweed farm in Kaba (S42) was located on a reef flat some distance away from the village. Seaweed farming was popular because of the abundant suitable space and the short-term nature of the crop. The farm was

operated by a private company, which was owned by a retired civil servant. The farm had 7,000 lines and covered approximately eight acres. This was the largest in the country and the company had a gross income of between F\$3,000 and F\$5,000 per acre.

In Vadravadra, a villager living in Viti Levu together with an official from the Fisheries Division instigated the farming. These men convinced the villagers that their areas were suitable for the purpose and that seaweed farming could be the source of funds for building some new houses in the village. A seaweed farming group leader was chosen to work with the village headman to organise farming activities. Seaweed farming was undertaken by the community as a whole. The people were initially enthusiastic and planted over 500 lines in three different blocks. However, consistent damage caused by strong winds, currents (Figures 7.3) and poor organisation hampered the effort. (Figure 7.4 illustrates the correct way to arrange the stakes and the lines). This crop was harvested only once after six months and the villagers earned F\$300. The venture was abandoned after this initial harvest.

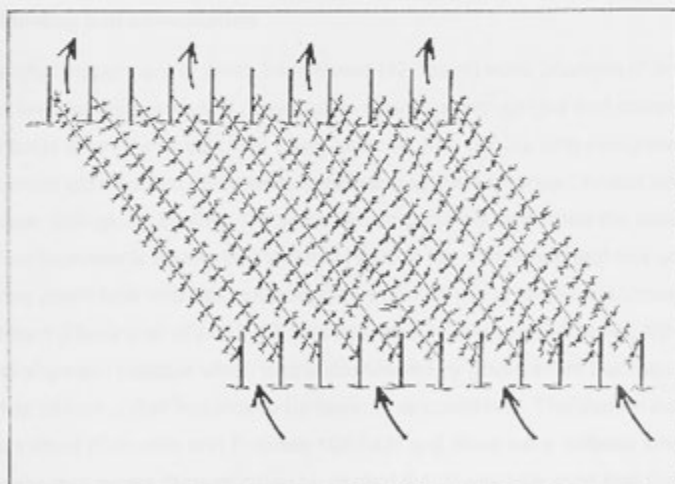
The seaweed farming experience in Namuka was similar to that in Vadravadra. An Agriculture Department official had introduced the idea to the people to provide a source of income for the villagers. The leader of the group then convinced the local chief that seaweed farming was a suitable communal activity. The farming and maintenance were loosely organised. The size of the crop was uncertain but must have been larger than for the farm in Vadravadra because they got more income from the sale of their crop. Maintenance was to be conducted by the people out fishing at sea but this was never formally organised. The people made their first harvest after six months and earned F\$600. The crop was dried unattended on the rock surfaces because the villagers were advised that rain was not a problem. The second crop was planted but was never harvested. The abandoned crop became the seed stock for the new scheme introduced in 1997. By that time, the wild stock had covered extensive parts of the coastal areas in Namuka.

Figure 7.3 Incorrect farm layout. Farm set against the water current.



Source: Foscarini, R. and J. Prakash, 1990. Handbook on *Eucheuma* Seaweed Cultivation in Fiji, Ministry of Primary Industries, Fisheries Division, Suva:8

Figure 7.4 The correct farm layout. Water flows into the farm.



Source: Foscarini, R. and J. Prakash, 1990. Handbook on *Eucheuma* Seaweed Cultivation in Fiji, Ministry of Primary Industries, Fisheries Division, Suva:8

It is clear from these accounts that seaweed farming was a typical externally designed and imposed development activity. The project was largely promoted by word of mouth and personal communication. The activity was offered to villagers with a lot of promises. Most of these villagers were involved without

properly assessing the requirements of the project. For example, although the majority of the farmers were part-timers, the schedules (see Table 7.2) required full days for the allotted work. In addition, the people were convinced of the inexpensive nature of seaweed farming but these were not entirely true as people needed to put in capital investments (see page 175).

## **7.4 Factors affecting the outcomes of the project**

### **7.4.1 Appropriateness**

Appropriateness explores the extent to which the project objectives and desired outcomes align with government objectives and priorities, and the needs of the people. The appropriateness of the project determines whether the project is required or whether it should be discontinued. Issues explored under this section include planning and consultation, impact of the project on the community, environmental change and sociocultural factors

#### **Planning and consultation**

Ninety-five per cent of those interviewed (42 cases) were unaware of any socioeconomic surveys or consultative meetings with project and company officials when the project was being planned. The people who remembered the surveys claimed that these were conducted by the Fisheries Division and Coast Biologicals Limited. Fisheries Division officials confirmed the conduct of a socioeconomic survey by Fisheries Division but mentioned that this was done much later and was not specifically related to the seaweed farming project (Rawlinson *et al.* 1995). The seaweed farming project was a top-down development initiative which was spearheaded by government because of what looked at first instance to be favourable conditions. The market demand was there (Foscarini and Prakash 1990:42) and there were suitable areas in rural areas where farming could be carried out. It was assumed that the people in the villages would be interested in this development activity and would react positively as entrepreneurs because of their need for a source of income.

Between April 1984 and the end of 1985, Coast Biologicals Limited, in conjunction with the Fisheries Division, conducted scientific tests and pilot trials in various locations in Fiji. The success of the tests and trials encouraged Coast Biologicals Limited, with support from the Fisheries Division and the

FDB, to set up commercial farms in Viti Levu (McHugh and Philipson 1988:3; Foscarini and Prakash 1989:2; Ram 1991:2-5). The technology and farming activities were also implemented in other parts of the country through the promotional work conducted by the Fisheries Division, Coast Biologicals Limited, other seaweed marketing companies and the villagers.

The involvement of villagers in outlying islands who did not have the support that was available to the seaweed farmers in the two major islands was also intriguing. For example, seaweed farms were established in Moturiki, Batiki, Nairai in Lomaiviti, Vanua Balavu, Fulaga, Ogea in Lau, and Nacula in Yasawa but the farming activities were largely unplanned (Fiji Seaweed Industry, undated). Although the Fisheries Division promised to meet the cost of internal shipping from these areas and provide the seed stock, the provision of other services such as training and technical advice was not included. Not surprisingly, most of these operations in the outer islands fared poorly. The project illustrated poor government analysis given the poor infrastructure support and the apparent lack of training. On the other hand, the villagers were initially satisfied by the promise of an alternative source of income that was supported by government.

It is also interesting that even after the prices fell in 1988 and after the withdrawal of Coast Biologicals Limited, the Fisheries Division was paying farmers F\$450 per tonne compared to the world price of F\$350 per tonne, indicating some form of subsidy (Ram 1991:11). This typifies the philosophy used by government to subsidise indigenous Fijian commercial development activities and is similar to what was offered in the copra and other industries. The result is ineffective commercial operations and significant costs to government.

The basis of the association between the Fisheries Division and the foreign company was never clear to me from the materials and information I obtained. Why was a foreign company so prominent in promoting this initiative? Was the foreign company pushing the project or was the Fisheries Division being sold the idea without properly checking the figures? There were also questions of who was paying for the research, promotion and extension work done and about the significance of the assistance that was offered by the

Commonwealth Fund for Technical Cooperation and the New Zealand Government from the initial stages of the project. I was unable to get clarification from either the company or the Fisheries Division. Even the New Zealand Embassy office in Suva and the Foreign Affairs office in Wellington were unable to clarify the relationship because files were closed and inaccessible.

Interestingly, a 1988 study had advised against commercial seaweed farming in the Pacific, warning that 'success in technical areas must be supplemented, or perhaps preceded, by well designed distribution and marketing programmes to ensure commercial viability and resultant private sector growth' (McHugh and Philipson 1988). The study concluded that because of high freight rates and the low cost structures of competing suppliers already in the market, there was very little prospect of Pacific Island seaweed products being successfully marketed in either the US or Europe. The study concluded that *Eucheuma* growing programmes were unlikely to be commercially viable.

The study contended that although the technical aspects of the project would be satisfactorily met, there were sociocultural considerations that needed to be addressed (McHugh and Philipson 1988:8–9). Some of these issues included whether the villagers were able to provide the required quantity of seaweed to make the operation economically viable and whether aspects of village life militated against the regulated and consistent effort that such an export-oriented activity demanded. The production units used in different locations indicated that the company had tried a variety of approaches to increase the efficiency of the industry. Other questions that remained unanswered included why seaweed farming was not extended to the other ethnic groups such as Indo Fijians; why the involvement of villagers in outlying areas such as Lomaiviti and Lau was fostered given the lack of support facilities in these areas; and why the above-mentioned prophetic consultants' recommendation against seaweed farming in the Pacific was ignored (McHugh and Philipson 1988).

It is clear that indigenous Fijian villagers are not as consistent with commercial production and work as their counterparts in Southeast Asia (Hooper 2000:2). As a result it was a mistake to make plans for the industry on the basis that



people were going to maximise production like Southeast Asian seaweed farmers. There were also questions of whether it was appropriate to base the industry in rural Fijian communities. Life in indigenous Fijian villages has a different rhythm and tempo. For instance, villagers are expected to do various voluntary community activities, which may take at least two days a week. According to the farmers in Kiuva, this was the reason why seaweed farming was popular—it allowed the people to attend to their other commitments. Ironically, this flexibility also was a problem because the people incorporated seaweed farming activities into their village schedules and not the other way around. People attended to their seaweed farms when there was nothing else pressing to be attended to. On the other hand, since seaweed farming work is conducted only at low tide, the farmers had to meet strict time schedules if they were to be at their farms regularly. The schedule, however, required more consistent attention than that which most villagers provided. The two points were not necessarily compatible and the drive for profit maximisation was undermined. As an example, in Kiuva, the majority of the farmers were satisfied with smaller rather than larger farms. In some instances, the farmers only revisited their plots when they wanted to harvest the crop to earn some money.

The decision during the project to earmark the indigenous Fijians was consistent with the fact that indigenous Fijians own the Customary Marine Tenure areas where seaweed farming was conducted. However, it seemed there was a contradiction between the need to promote the welfare of indigenous Fijians in rural areas and the viability and sustainability of the industry. Such mixed motives were a dilemma because the affirmative approach undermined the export-oriented and national economic development objectives.

The farmers in Nakobo (S44), argued that 'government often pushes its own objectives and does not care about the people involved'. The farmers lamented that the Fisheries Division and the seaweed farming companies made many unfulfilled promises to them. Moreover, the people claimed that 'government do not present the whole situation, particularly the uncertainties and disadvantages that can compromise the viability of a project when it is

introduced'. For example, the volatile market situation was not mentioned and the people were caught unaware when prices dropped (Table 7.1). In addition, the basic production technologies such as cultivation, care of seaweed, processing and marketing were not properly explained to the people who, because of their isolation, had little information about the new farming system and its requirements.

The use of different production units illustrated the search for an appropriate farming unit. The extended family units were effective in terms of production but were not easy to hold together. On the other hand, individual family units were better with distribution of the income but were too flexible in nature and were often small. Given the problems of low production resulting from the above farming methods, a reasonable alternative was to have commercial enterprises operate the farms. Having employees seemed a better way of addressing the problems of part-time and self-employed farmers who were allowed to do whatever they wanted with their seaweed farms (Foscarini and Prakash 1989:4). With villagers as employees, a company could exercise more control over how they worked and how much they produced. This, it was hoped, would result in the higher production the industry needed but was not getting from its village-based farms. This arrangement, however, would require that the seaweed farm area be leased from the traditional owners and this was a separate issue altogether.

Fiji experiences frequent storms and hurricanes. Therefore, farmers, to reduce their losses, have to ensure that they do not have mature seaweed crops in the water during the hurricane season. This requires planning and discipline. A four-crops-a-year schedule means that 32 out of the 52 weeks in a year should be taken up by seaweed farming while a five-crops-a-year schedule would take up 40 weeks. If the hurricane season is 12 weeks then the farmers, particularly those who intend five annual crops, have to decide carefully on timing the break, keeping in mind that villagers do not usually work on Sundays for religious reasons.

Some farmers mentioned their reluctance to plant more crops because of the risks of increased losses. This was a rational decision by the farmers. It was government's moral duty to provide relevant information and allow the people

to make appropriate decisions. As the farmers in Nakobo mentioned, 'This is why the people need to be given all the information they require to make informed decisions'. For example, the schedule that demanded people's full-time attention was not clearly spelt out to the farmers at the beginning of the project, and was a likely cause of the poor performance as farmers were wrongly reassured that working during low tide only was adequate.

According to the owner of the farming company in Kaba (S42), 'The only thing that should be in the water in December, the peak hurricane season, is the seed stock'. The farmer had cultivated twenty acres of seaweed but this crop was totally wiped out in a hurricane due to poor planning. The man left seaweed farming after the loss and claimed that the experience had taught him useful lessons: 'People should plant only according to their capacity, which should be determined on the basis of their access to boats, labour, drying racks, shipping to collection centres and finance'. Most individual families should have, at the maximum, one-acre farms.

It was not possible to know the reasons why Coast Biologicals Limited and the Fisheries Division decided to introduce seaweed farming into Fiji because of the refusal of the company to cooperate in this study and the lack of records at the Fisheries Division. However, the decision may have been based on some interesting assumptions. It seemed unlikely that production would exceed the 600 tonnes level, which would have made the company construct a Semi-Refined *Carrageenan* (SRC) processing factory in Fiji as they had promised (Ram 1991:4). With the low production and other inherent contradictions, such as the focus on indigenous people rather than the Indo Fijians, unanswered questions remain. Why was the foreign company involved in the first place? Did it do proper assessment and consultation? Was it relying on the foreign aid to offset the competition from Southeast Asian producers? Was it the favourable price of seaweed at the time that swayed the decision to go ahead or was it the favourable freight rates to New Zealand? Was the project primarily the result of a political decision to involve the indigenous community?

All of the people interviewed agreed that the project was relevant to the local needs in all the areas where it was established. As with the boat building project, villagers needed a regular source of alternative income that they could

develop in the village. Seaweed farming in Fiji provided this, and afforded opportunities for an improved standard of living. In addition, seaweed farming also encouraged purchases of outboard punts which were generally used for transportation and fishing. In all of the major farming areas, the people were convinced that life in rural areas had improved because of the project. People mentioned that they were in a better position to meet their social obligations as they could support their relatives more effectively. In some cases, people were able to access loan facilities that were otherwise unavailable to them if they had no regular income.

### **Impact of project on the community**

Eighty-four per cent of the farmers interviewed (37 cases) were happy with how community life had improved with the availability of an additional source of income. The farmers were convinced that seaweed farming while it lasted had allowed them to remain in their villages and continue with their lifestyles and yet enter into commercial activities. S7 was such a highly motivated village farmer. The man had attended a weeklong training course and was the leader of the seaweed farmers in his village. His family had a weekly income of between F\$70 and F\$100. This income was doubled or trebled whenever he harvested extra seaweed. The farmer and his family were adamant that seaweed farming had improved their living standard. The farmer took a loan from the FDB to purchase his own punt and an outboard engine which he had subsequently repaid.

The farmers were convinced that seaweed farming was better than other fisheries development initiatives. As farmer S2 argued, 'Seaweed farming is more definite and guaranteed than looking for coconuts or diving for bêche-de-mer. The farmer knows what type of income he can expect given the crop he has. In addition, fishing is better around the farm because fish congregate there'. Furthermore, the weekly income of between F\$80 and F\$100 was in excess of what was required to support the children at school and to allow the family to pay church and village levies.

Seaweed farming was flexibly organised and the farmers were able to combine it with activities they normally attend to at home and in the village. All the respondent farmers were satisfied with the alternative source of income

and were not too concerned whether this was F\$20 or F\$200 per week. Farmer S4, for instance, used the F\$70 weekly income to buy building materials and pay for the children's education. According to farmer S4, 'Seaweed farming is attractive because it involves the whole family. There is work for everyone including the old and the young'. According to another farmer S2, the difficulties faced when the project was terminated were due to how dependent people were on seaweed farming.

Seaweed farming affected village life because of the time people needed to tend to their farms. People were required to reorganise themselves so that they could also attend to the village activities. Most of the villagers lacked the initial capital and financial resources to invest in their farms and had to improvise on many of the requirements of the farms. In addition, the regular use of punts because of the location of farms away from the villages meant higher operating expenses, which some of the villagers were unable to meet. Farmer S4 blamed his current poor health on seaweed farming and the long hours he claimed to have spent in the water.

Sociocultural circumstances influence the motivation of indigenous Fijians. The communally owned ventures were poorly organised with dismal results. The majority of the seaweed farmers were content to earn whatever they could from this source of supplementary income. There was little evidence that people exerted themselves purposefully to maximise their incomes. This needs to be understood by people formulating development projects involving indigenous Fijians because villagers' loss of interest and commitment were related to unrealistic assessments by the clients of the costs and benefits involved in the development project (Qarase 1988:239).

The people were happy with the project, even though their low production was one of the reasons that caused the withdrawal of Coast Biologicals Limited. The situation reflected the conflict in the objectives of the individuals involved and those of the company and the industry at the national level. In the end, the high prices that Coast Biologicals Limited was paying for Fiji seaweed were not worth their while as it was cheaper to purchase the seaweed from other producers such as Indonesia (McHugh and Philipson 1988:11).

A problem with the available statistics, is that they do not specify the actual number of people involved, the production level and the size of the farmed areas that were being talked about. The number of farms, for instance, does not indicate the types of farms and their effectiveness. Closer analysis reveals that there were farms owned by individual families, extended families, communities and companies. These different farming units differ in their capacity and resources. The number of farms, on the other hand, do not show whether or not the farmers were producing as well as expected under given conditions.

### **Environmental change**

*Eucheuma* reproduces asexually, which makes it easier to establish itself in the areas where it is introduced (South 1993b:684). Little scientific research has been conducted to monitor the growth of the introduced seaweed in the areas where it has replaced the indigenous flora. The seaweed farmers agreed that fish congregate on the farms (South 1993b:686). The herbivorous fish thrive on *Eucheuma* and, in turn, attract predator fish. Moreover, the seaweed provides food, shelter and refuge for many marine organisms. The farming is sustainable because new seed stocks are obtained from the harvested crop and the farmers decide on the quantity of their harvest. This is why seaweed farming has been different from extractive fisheries developments such as commercial and bêche-de-mer fishing.

The environmental impact and the resultant change were largely ignored at the time of the project. The disturbance to the seafloor due to the erection of stakes and racks was not scientifically assessed. Likewise, the introduction of exotic species of seaweed and the cutting of trees from surrounding areas (to provide the stakes and the posts for the drying racks) were done without any assessment of their impact. However, the environmental impact of these developments would not have been large given the small scale of production.

### **Sociocultural factors**

In Malake, where the farms were owned by extended families, there were instances in which differences within the units resulted in family breakdowns. In some cases, the members of the group did not know anything about the

disbursement of monies because that was the responsibility and prerogative of their elders. In some of the families, the system of distributing benefits was the cause of the eventual breakdown of the production unit.

In Kiuva, the individual household unit worked at its own chosen level. The growing and harvesting schedules were relaxed, allowing the families to pursue other economic and cultural activities customarily associated with village life. Farmers continued to fish, gather coconuts and plant short-term commercial crops to ensure that they had various sources of income. Some villagers were reluctant to take up seaweed farming because the sea was the traditional domain of only some clans in the village (*kai wai* - inhabitants of the sea). Thus, the members of the other clans in the villages felt that they were at a disadvantage. However, other farmers boasted that they did better than the traditional *kai wai*, which showed that perhaps this concern was dependent on individuals' commitment and motivation rather than customary perceptions.

In Vadravadra, Namuka and Nakobo, people quickly lost interest and the activity became the responsibility of a small group of people. Organising work in large groups was difficult unless there were good incentives, the people were motivated and there were effective monitoring and policing arrangements. Good leadership was also an important requirement.

Coast Biologicals Limited was eager to involve Indo Fijians and other ethnic groups but this was opposed by the political leaders (Jayant Prakash, Personal Communication December 5, 1998). In the end, as McHugh and Philipson (1988) warned, the project was not viable.

The decision by government to involve only the rural indigenous Fijians in the seaweed farming project was consistent with the government's affirmative policy of encouraging, supporting and subsidising their involvement in commercial ventures. However, this policy ignored the realities and past experiences. Village life was not conducive to such an export-oriented industry. It was also questionable to expect the farmers to regularly put in consistent normal-day efforts in a new and unfamiliar activity. 'The seaweed farming project appraisals failed to take into account the socioeconomic situation and preferences of farmers and assumed that they would wish to cultivate more than they did' (Qarase 1988:238).

#### **7.4.2 Cost effectiveness**

Cost effectiveness measures the relationship between the inputs and outcomes in dollar terms and also considers the technical quality and factors such as cultural sensitivity, ethics and social justice. Issues examined here include access to capital, repayment of loans, and the benefits of the project,

##### **Access to capital**

Financial resources are vital in development projects such as seaweed farming. In this case, capital costs, such as the \$128.50 fixed costs plus at least \$81.50 for materials and tools for every 320-line half-acre farm, were a major commitment for villagers. This type of money was not easily accessible to villagers and therefore was a limiting factor for many. Perhaps this was why larger groups were involved, as it was easier to raise the necessary capital and collateral for the development projects.

At the beginning of March 1987, 75 FDB loans totalling F\$212,319 had been approved to seaweed farmers. Collectively these farmers were estimated to have cultivated 17 hectares or 41.4 acres of seaweed. However, it seemed these loan figures compared to the real measurements on the ground were discordant.

Loans of up to F\$3,000 were available to seaweed farmers for the purchase of fibreglass punts and outboard engines. To be eligible for a loan, each applicant had to be a bona fide seaweed farmer, hold a valid seaweed farming contract with Coast Biologicals Limited and contribute 20 per cent of the loan (Qarase 1988:237). New Zealand aid provided a F\$600 grant (13 per cent) to each of the farming groups that took a boat and engine loan from the FDB. However, only 32 per cent of the seaweed farmers involved in the study (14 cases) received financial assistance from the FDB. The majority of these farmers were from Malake. It is unclear why most of the farmers in the other areas did not take a loan, but as shown in the first case study, indigenous Fijians still have to appreciate the use of money and a simple financing arrangement to increase productivity.



### **Repayment of loans**

Loan repayments to the FDB were amortised over 18 months, with a grace period of six months. Repayment was by an assignment over the sale proceeds of the seaweed to the purchasing company (Qarase 1988:237-8). The loans were to be serviced through the deduction of at least 20 per cent of the farmers' gross income every time they sold dried seaweed to Coast Biologicals Limited. The loan security was the bill of sale on the boat, engine and chattels plus the assignment. By March 1987, seaweed loan account arrears with the FDB had numbered 35. The repayments were affected by the decision by some of the farmers to delay replanting until after the hurricane season. In addition, the assumption by FDB officers that the farmers would cultivate more than they did made it unlikely that the repayment figures based on the 20 per cent of the gross sale proceeds would be adequate to repay the loan. This was a common problem, which led to the writing-off of 88 per cent of the total number of indigenous Fijian loans at the FDB between January and December 1985 (Qarase 1988:238).

The bulk of the loans were repaid although some of the farmers involved in the study mentioned that they had faced difficulties with their repayments. Some of the farmers in Malake and Kaba faced loan repayment problems after the project was terminated. These farmers turned to fishing to meet these commitments. In a case in Kiuva, the loan repayment problems resulted in the repossession of the outboard punt after the termination of the project.

A lot of the farmers found it difficult to service their loans because of low production (Jayant Prakash, Personal Communication December 1998). These low production levels made these farmers vulnerable to small fluctuations in the selling price of the crop. In some instances, the farmers' low production was made even less significant by bad weather and storms, which either delayed harvesting or destroyed the crops.

It would seem that the loan repayment problem was due to the mismatch between reality and assumed production and income flow patterns. In some cases, the income was much smaller than the expected amount. Thus, it was difficult to meet loan repayment schedules based on 20 per cent of the earnings. In other cases, the incomes were adequate but the farmers were

unwilling to clear their loan accounts. In these cases, some of the seaweed farmers tried to sell their seaweed through someone else so that their deductions were not made. Such schemes did not work because the 20 per cent deductions were still made but the whole amount was credited to whomever made the sale. Other clients also mentioned problems with the interest rates and repayment schedules which were similar to the complaints raised by the boat owners (see Chapter 6).

The failure of indigenous Fijians to repay their loans was due to their lack of commitment, loss of interest and inexperience. Lack of commitment resulted in low and irregular production and in the involvement of the farmers in nonmonetary activities. Loss of interest was experienced after the villagers had started with the development activity and had found the real requirements of commercial operations to be too hard to meet. Unfortunately, few of the people with loans under the project had previously been involved in commercial activities, and they lacked the capacity and training to operate commercial ventures as expected. Inconsistency, wastage and mismanagement were common occurrences amongst indigenous Fijian-owned seaweed farming ventures because of their inexperience with commercial development activities.

The FDB experiences in this and the boat building project showed that financial figures provided by inexperienced clients could not be taken as credible because these people were more interested in securing the loans than in providing accurate estimates of what their collateral was. As a result, they were willing to undertake a project even though the chances of making a profit were uncertain or unlikely. Hence, unless the lending organisations conducted detailed appraisals, these clients would secure loans without being appreciative of the requirements in terms of the time that they needed to put in to finance loan repayments. It is clear that the preferential financing provided through the FDB alone could not guarantee the successful involvement of indigenous Fijians in development projects. In fact, the preferential financing may have encouraged people who were not suitable to be involved in the first place. There was also the need to provide a level of support, advice and supervision to make the offer of finance more effective.

## Benefits of the project

All of the respondents agreed that seaweed farming was a suitable project for rural Fiji. The technology was simple and cheap, except where drying racks were built at sea. Seaweed farming brought the market to these villagers and provided a steady source of income. The flexible nature of seaweed farming should have allowed the people to attend to their other duties, while people had the money to assist their relatives and friends who required assistance. The use of local materials further reduced the capital costs. In all cases, the planting materials were provided free of charge, while the Fisheries Division, through a New Zealand Government grant, met the costs of transport from the outer areas. Unfortunately, not too many people successfully took advantage of these available opportunities.

Seaweed farming provided new opportunities in only nine per cent (4) of the cases. These cases were amongst the most successful in the whole project. In three of the cases (S26, S26 and S40), the farmers secured permanent employment with Coast Biologicals Limited. In the fourth case (S42), the farmer's company had moved on to export other marine-based commodities such as coral and ornamental fish. The majority of people however reverted to their traditional activities after the project folded.

In all of the seaweed farming areas, the villagers were told of the attractions of farming short-term crops such as seaweed, of earning a regular income in the villages and of the opportunities for accessing loans from the FDB. However, the people farmed seaweed whenever they were free from their other village commitments. Consequently, the average size of the farms was small. It seemed probable that the people were given inflated figures not based on realistic assessments taking into consideration the technical requirements, the institutional and infrastructural needs, marketing links and the reliability of supply and demand.

Seaweed farming was an important source of income in the areas where it was conducted (Table 7.4). The income earned varied depending on the type of farming undertaken and the size of the farm. The majority of the seaweed farming groups had an income between F\$50 and F\$100 per week. However, 25 per cent of the farmers earned less than F\$50 per week which meant that

these farmers had farms that were smaller than 320-line farms. A small number of farmers earned more than F\$200 per week. Most of these were extended family-owned farming units.

**Table 7.4 Estimated weekly income for seaweed farmers in the sample (F\$).**

Income	<\$50	\$50-\$100	\$101-\$200	>\$200
Number	11	18	8	7
Percentage	25	41	18	16

Source: Veitayaki, 1999. Field data

The reduction in the price of seaweed from 78 cents per kilogram (F\$780 per tonne) in 1986 to 35 cents in 1988 (F\$350 per tonne) quickly led to the loss of interest in seaweed farming. Prices returned to 50 cents a kilogram (F\$500 per tonne) in 1989 and 1990 but dropped to 40 cents per kilogram in 1991 and again decreased, to 35 cents a kilogram, in 1992 (see Table 7.1). Such volatile price fluctuations drastically affected the decisions which people made regarding their seaweed farming activities. Unfortunately, the risk of such price volatility was not explained to the people at the beginning of the project. As one of the farmers in Nakobo put it, 'The calculations are based on high prices which change when the prices drop to about half'.

The larger units such as the extended family groups in Malake earned more income than the smaller individual family farms in Kiuva. However, the distribution of income was more of an issue within these larger groups than within the smaller ones. Most of the extended family farming groups used their income to purchase motorised fibreglass punts and family houses. With the family units, all family expenses were met from the income earned from seaweed farming.

At the national level, seaweed farming also contributed to the foreign exchange earnings for Fiji and reduced unemployment (Jayant Prakash, Personal Communication, December 1998). For 86 per cent of the sample (38 cases), seaweed farming was the most appropriate rural development activity they had tried. By the end of 1986, 173 tonnes of dried seaweed valued at an estimated F\$135,290 in foreign exchange earnings had been exported. In 1987, around 217 tonnes valued at F\$136,870 was exported. Although production fell markedly after 1987, when the whole country became

preoccupied with the political situation after the two coups, the export of dried seaweed continued to earn foreign exchange until the project wound up in 1993 (see Table 7.1). According to respondent S1, 'The unexpected changes in prices were detrimental to the overall development of seaweed farms because it affected people's financial commitments'. Unfortunately, this price volatility was not made known to people who were sold the idea that the income was better and the risks minimal. This is why it is important that projected cost and benefit analysis should be used to provide the villagers with such information.

The bulk of the farmers were not motivated by the need to maximise their income. The people were provided with subsidies to enhance their income-earning capacity and subsequently improve their standard of living as they satisfied their basic needs. Although the preferred optimum farm size for a family was one acre, this was achieved in only a few of the cases, as most of the farms were smaller. In addition, the average one-acre farm would easily produce between five and eight tonnes of dried seaweed a year and with better management could increase output to 20 tonnes (Fiji Seaweed Industry, undated:2). Although farming arrangements adopted in Fiji suited indigenous Fijian farmers, the low seaweed production caused great concerns to Coast Biologicals Limited.

#### **7.4.3 Effectiveness**

Effectiveness examines the extent to which programme outcomes have achieved the objectives of the programme and the extent to which it can be claimed that the project caused the outcomes. The issues discussed here include meeting the objectives, leadership, distribution of benefits, and capacity building.

##### **Meeting the objectives**

Eighty-six per cent of the respondents (38 cases) felt they had met their objectives. Most of the objectives related to creating a source of income. For the seaweed farm in Kaba for example, the objective was to assist village development by providing a source of income for the villagers. In Vadravadra, the objective was to raise money for a housing scheme. This was not attained.

In Kiuva, having an alternative source of income was the common objective. Thus, as long as there was income from seaweed farming, this objective was satisfied. The sum of money received did not seem to make any difference to the people involved. This is so because it was uncommon for people to consider their costs and benefits. For most, whatever money was received was considered profit and was adequate.

The objectives of the project differed markedly between the seaweed farmers, on one hand, and the government and the marketing companies, on the other. The farmers wanted a source of income. This was related to the government's aim of boosting foreign exchange earnings and improving the socioeconomic lot of the rural communities. However the Ministry of Rural Development and Rural Housing was pursuing a socioeconomic development strategy aimed at strengthening rural people's participation in their own development. Government also carried out rural development that emphasised greater efficiency and effectiveness, more fruitful and sustainable participation, determined leadership and self-reliance (Fiji, Ministry of Rural Development and Rural Housing 1992b:3). The companies were also interested in generating an income but their objective was to secure a reliable source of seaweed from Fiji.

Although the objectives were related, there was a marked difference. The farmers were happy with what they were earning from the project. The government and the company, which needed an increased output to have a reliable local source of seaweed, were not satisfied. In the end, the poor state of the industry at the national level spelt the end for the industry. The fact that the farmers were happy with the projects did not make any difference. This was why Coast Biologicals Limited pulled out while government looked at other ways of involving rural communities in development activities.

### **Leadership**

Leadership in this project was judged to be inadequate by 64 per cent of the sample (28 cases). In Kiuva, for example, the farmers had a committee and a leader. However, there was no direct contact with either the Fisheries Division or Coast Biologicals Limited. Instead the people worked through the company's local representative whom they accused of not serving them well.

For instance, the farmers argued that the punts they were given were cheap and of poor quality. According to the villagers in Kiuva, their punts were towed to the village half-filled with water. They also claimed their boats were inadequate for harvesting, a claim which sounded questionable given the people's low production figures. Furthermore, the punts were suitable for use in shallow water at low tide, which was ideal for the conditions in Kiuva. However, the people did not like these boats and preferred larger and motorised boats, which would have cost more to buy, operate and maintain. Good leadership might have dealt with this situation. Instead, there was a lot of suspicion, which undermined the operation.

Farmers in Kiuva also said that the drying racks were too small and people had to queue to use them. This affected the drying processes, as the farmers competed with each other to have their seaweed harvested and dried in time before it overmatured, broke and fell to the seafloor, causing losses for the farmers.

The situation was precarious because it was hard to tell which should come first—whether the drying racks needed to be extended if farmers were to produce more, or whether the farmers would produce more if larger drying rack space was provided. Effective and good leadership would have made a difference in such a situation. In this instance, the villagers did nothing to solve the problem. This inaction showed lack of enterprise common among people who were reliant on handouts and those who had been introduced hurriedly to development activities with which they were not familiar, or for which they were not prepared or consulted. Incidentally, the racks were much bigger when seaweed farming was reintroduced in 1999. However, this time, some of the racks were later relocated to other parts of the country because they were underutilised.

The lack of good leadership was also a problem at the national level. There were, at the most, only two Fisheries Division officers in charge of the project and a few employees of the companies involved. These people were responsible for advising and supervising the entire industry in the country. It was obvious that the project was largely self-generating and evolving.

The farmers were not well-informed of changing circumstances in the industry. Capital assistance was available to only a restricted number of the families. The rest were largely left to depend on their own resources (punts and money) and whatever materials they had been given (ropes, planting materials and drying racks) by the Fisheries Division and Coast Biologicals Limited. In Malake, for example, there was no committee and the people dealt individually with Coast Biologicals Limited. This was acceptable in this situation because the company office was nearby and the people had direct access to company representatives. Lack of good leadership was a notable problem with the communal ventures. In the end, the people shared the low income due to poorly organised work.

### **Distribution of benefits**

Eighty-nine per cent of the farmers involved in the study (39 cases) were happy with the way the benefits from seaweed farming were distributed. The preferred system of ownership appeared to be individual family households, where the earnings were owned by and distributed within the family. The people involved determined how much money they earned and this influenced their farming activities. Often it was difficult for people to work together in communal groups because of all the accusations and counter-accusations that members of such groups made. Strong social relationships were important for the success of communal ventures because it took only a few dissident villagers to sway the support away from the venture. When that happened, the end result was division within the group or community and ultimately the failure of the venture.

### **Capacity building**

Capacity building in this project was disappointing because it was badly addressed at the national level as well as within the different regions. Training was offered in only 30 per cent of the cases covered in the study (13 cases). The main emphasis in these week-long training seminars was on seaweed cultivation. In some cases in areas outside Viti Levu, no training was offered for entire groups of seaweed farmers. According to all the farmers interviewed, the provision of training to only a limited number of people who were then expected to spread the knowledge to others was inadequate. Everyone should



have had the opportunities for training in proper farming techniques, for good quality and consistent production, maintaining a schedule that avoided having any crop during the hurricane season and acquiring skills for managing their finances. There was a need for training on crop care, processing, productivity and marketing.

The farmers from Kaba were taken to Malake to observe the seaweed farming process. The Fisheries Division, in association with the South Pacific Aquaculture Development Project of the Food and Agricultural Organisation of the United Nations, produced a *Handbook on Eucheuma Seaweed Cultivation in Fiji* (Foscarini and Prakash 1990). Although the book was translated into the vernacular, this was published too late for most of the farmers, who by that time were already involved in seaweed farming. In any case, producing handbooks in isolation was not an appropriate way of communicating with the village-based farmers.

Training should also have included site selection; the field layout; propagule size; selection and care; maintenance and crop protection; harvesting and postharvest handling. It was also widely recognised that many of the farmers did not pay close attention to the need to regularly clean their plants to reduce shading by other plants and on-plant sedimentation. Cleaning was done by removing unwanted seaweed and by regularly shaking the monolines to remove the mudflakes or sand which accumulate on the *thalli* of the seaweeds. Shading reduces the rate of growth due to less photosynthesis (Prakash and Foscarini 1990). Farmers who did not regularly visit their farms could not do this and were incapable of tending their seaweed so that the crop grew well. These are important areas that farmers need to be familiar with. In Vadravadra and Nakobo, for example, the villagers at first erected their lines across the currents (Figure 7.3) and consequently suffered widespread damage, which slowed the work and reduced production. In the same way, in Namuka, the crop was not harvested until it was six months old. The farmers were also told that the rain was good for the dried seaweed as it made it heavier. These misconceptions would not have occurred if proper training and follow-up extension work had been provided. Meanwhile, these requirements

made it unlikely that part-time subsistence farmers would have successful and bountiful harvests.

#### **7.4.4 Efficiency**

Lastly, efficiency establishes the extent to which the programme inputs are minimised for a given level of programme outputs. Issues explored in this section include the institutional arrangements, appropriate technology and intersectoral cooperation

##### **Institutional arrangements**

None of the farmers was happy with the institutional arrangements associated with the seaweed farming project. They felt that they were not consulted because the Fisheries Division and Coast Biologicals Limited had a limited number of people working for them. These few people were expected to conduct research, attend local and overseas meetings and do extension work. In addition, some of the companies were operating their own farms. It was therefore little wonder that representatives of the Fisheries Division or of the purchasing companies, never visited the farmers in the outer areas.

There was no committee to oversee seaweed farming in many of the farming areas and the farming unit had to make its own decisions on production. Some of the farmers would have preferred that the Fisheries Division had played a more critical role in representing them and not appear as a 'front' for the company. The association of the Fisheries Division with the FDB was particularly welcomed but needed to be made more effective.

##### **Appropriate technology**

One of the attractions of seaweed farming had been the simple technology, which enabled people, including some of those who did not attend the training, to do well. Farmers could organise their farming activities so that they harvested weekly. S7 planted 20 strings every time he visited the farm and was able to harvest weekly (and sometimes more) throughout the season. In another case, in 1986, respondent S37 planted three crops and earned F\$11,000. The farmer built a house and repaid his F\$3,000 loan.

##### **Intersectoral cooperation**

The private sector and the Fiji Government had worked together with the international community during the project. New Zealand Overseas Development Assistance (NZODA) commenced its support for the project with a cash grant of \$66,000 in the 1985/1986 financial year. Between 1985/1986 and 1989/1990, a total of \$300,000 was provided by the New Zealand Government for the development of commercial seaweed farming operations.

The involvement of government, the private sector and the foreign development assistance represented an ideal relationship that could have been a basis of successful projects and development initiatives. However, the partnership did not work in this instance because of the important factors that were ignored. These included the involvement of well-trained local communities, promotion of realistic social expectations, motivated villagers who were ready to pursue their dreams under the needs-based philosophy, and the maximisation of net incomes and consistent production by villagers. The Fisheries Division worked closely with Coast Biologicals Limited to start the farming activities. The fact that the arrangement did not work well proved, yet again, that financial assistance and minimal inputs, as in this project, are insufficient to promote meaningful rural development initiatives.

## **7.5 Conclusion**

The seaweed farming project was favourably regarded by the majority of the people involved. The income generated greatly enhanced living in these rural community. The factors that the respondents felt negatively affected the outcome of the project included poor planning and consultation, leadership issues, nonavailability of capital, inability to repay loans, capacity building, and the inadequacy of the institutional arrangements. The company masterminded the planning and consultations. The plans were appropriate in terms of what was to be done and why, but aspects such as who was to be involved and how were not properly thought out. Consultation with the people involved was not effective. In most of the outlying areas, there was little liaison with Coast Biologicals Limited or the Fisheries Division and there were no alternative organisational arrangements except for the local leaders, who made all the decisions. Little basic training was provided for the villagers and people had to rely on what they learnt from other farmers. The villagers were not provided

with adequate information on the demands, the potential risks and the expected returns.

Farmers in villages were easily swayed by promises, which influenced the decisions people made regarding participation in income-earning development projects. Such promises often gloss over the responsibilities such developments entail. Unfortunately, the will to work wanes when the fulfilment of such promises is slow in coming or when the real requirements prove too difficult. The villagers in Nakobo, for example, claimed that Fisheries Division officials 'ignored the uncertainties such as the fluctuating prices they knew existed with the projects as they attempted to present convincing proposals to the people'.

Through this trial and error experience, the villagers learnt of the requirements of seaweed farming. According to the farmers, the majority of the groups did not work well because of differences in sociocultural expectations, project objectives and lack of information. In retrospect, the farmers also argued that smaller farming units such as family and individually owned farms operated more effectively than large groups. However, the involvement of the families needs to be based on their ability to meet the obligations as participants in a development activity. According to one of the group leaders, 'Organising a large group is difficult particularly when the line of authority is not well-defined'. In the farmer's village, the sociocultural differences had resulted in social divisions that were also blamed for the collapse of two other previous development activities. As the farmer explains, 'It is unrealistic to expect the whole village to cooperate in a development project because of the many existing conflicts.'

Rural development initiatives need to accommodate these realities to work successfully in involving people and in improving the conditions of living in rural communities.

## 8. Lessons to be learned

### 8.1 Introduction

Rural development projects are an important part of the Fiji Government's overall plan to stimulate the involvement of rural people in sustainable economic activities and increase the production of the rural sector. For example, the boat building and the seaweed farming projects were part of the Fiji Government's affirmative policy of involving indigenous Fijians in commercial activities. The policy was implemented by amongst others, the Ministries of Rural Development, Youth and Sports, and Fijian Affairs. The projects were also two of the initiatives pursued by the Fisheries Division to increase the production of the fisheries sector and involve people in artisanal and commercial fishing. Although the projects were well received by the people, for different reasons, changes are definitely needed if the overall performance is to be improved.

Rural development is particularly complex because of the many factors that influence its outcomes. The problem is exacerbated by the situation where there are many participants, spread over a large area, with little or no history of involvement in commercial activities and significant uncertainties and incomplete information. Rural development projects therefore need to be properly evaluated so that the lessons they offer can be addressed in future development projects. After all, past experiences should provide an insight for those formulating and implementing future development plans.

This chapter draws together and synthesises the problems that adversely influenced the performance of rural development projects analysed in this study, and proposes ways of addressing them. The problems include inappropriate planning, lack of consultation with the local communities, inadequate consideration of economic factors, incomplete understanding of the sociocultural situation, poor institutional arrangements and lack of capacity building. The suggested solutions include appropriate planning, thorough public consultation, careful monitoring and evaluation, accurate cost benefit

analysis, better understanding of sociocultural conditions, provision of infrastructure and the offer of suitable training.

However, there were factors that were reasonably well addressed. These included the relevance of the development projects to the local need for sources of livelihood. People were satisfied with the alternative source of income and were not too particular about income levels. However, the earnings were low and reflected the socioeconomic position of people in their subsistence villages and the indigenous Fijian's attitude of earning income only when needed.

The development projects improved people's lives by allowing them to fund the purchase of building materials, household items, punts and fibreglass boats, school expenses, community and church levies. The villagers mentioned the difficulties they endured after their venture or the project collapsed. These failures interfered with the people's livelihood and need to be minimised.

In both the case studies, capital was provided by government and donor agencies to allow the participation of the targeted groups in the development activities. While the projects were subsidised they also required investment levels which some people in a subsistence economy lack. Fishers, from the sample who obtained fishing boat loans, contributed at least a third of the cost of their ventures, ranging from around FS1,000 to FS11,000. With the seaweed farming project, a minimum investment of approximately FS210 was required from every farmer involved. These requirements meant that only the people with the money and resources could participate in the respective projects.

The projects' objectives differed at the local and national levels. With the boat building project, for example, the objectives of the fishers to improve their income through fishing were related to the national aim of increasing capacity and productivity. However, some fishers had an important, albeit secondary, objective of improving their dwellings and accessing marine transport, an activity specifically prohibited at the national level. Similarly, seaweed farming provided a welcome source of income to help rural dwellers improve their living standards; but the national aim of having a reliable and internationally competitive source of seaweed was hampered by the people's lack of

commitment and motivation. In addition, the lack of infrastructure services meant that there was little interaction between the local communities, the companies and the Fisheries Division. This resulted in the polarisation in objectives at the local and national level. Some of these objectives, as shown here, are actually contradictory; but nonetheless related to the aims and objectives of different government departments.

The distribution of benefits differed between individually, family-owned and communally-owned ventures, but overall distribution was equitable. The communities as a whole benefited from the ventures, with the exception of those that struggled or collapsed because of mismanagement.

The technologies introduced through the development projects were suitable in rural areas. For example, villagers already dependent on the utilisation of marine resources were involved in commercial fishing and seaweed farming. Nevertheless, these activities required additional skills that were vital for the success of commercial ventures. The requirements of commercial fishing and seaweed farming were unfamiliar to many and were supposedly addressed through training.

The case studies also show how the different but relevant government agencies and the private sector cooperated in addressing pertinent development issues related to such projects. The cooperation between the private sector and government agencies illustrated what was needed but highlighted the issues that need to be addressed if people in the different sectors are to work together amicably.

## **8.2 Problems of development projects**

Problems that have been identified in this study which impede fisheries development projects in the Pacific Islands include:

- lack of understanding of the community
- inability to distinguish different local conditions
- poor project planning and implementation methods
- lack of attention given to environmental damage and change
- inadequate trained and experienced capacity
- unrealistic assumptions

- lack of integration with other development activities
- inappropriate development approach
- inadequate infrastructure and institutional framework
- difficulty in securing and repaying loans
- poor statistics
- political interference.

These problems are related to those that have been described by Lawson (1980), Halapua (1982), Carleton (1983), Rodman (1989), Johannes (1989), Liew (1990), Doulman (1990), Munro and Fakahau (1993a, 1993b), Kane *et al.* (1996), Schoeffel (1996), Faasili and Time (1999) and Lindley (1999). The causes of the problems suggest, without much empirical evidence, the deficiencies in the development project design. It is therefore probable that a better system for evaluating fisheries development projects is required to determine the range of factors that need to be addressed in planning successful fisheries development.

### **8.2.1 Rural development approaches**

Although the rural development theories and approaches have been straightforward and popular, their implementation have been problematic. The failures of rural development have been blamed on top-down, externally driven and economically oriented development that did not suit the local situation. As a result there has been constant debate on the theories and approaches, their usefulness and subsequently their revision. Alternative approaches such as bottom-up, locally determined, holistic and sustainable development have been offered as possible solutions to the problems of inappropriate rural development but little progress has been made in putting into operation these solutions.

The influences of development approaches and strategies were evident in Fiji's Rural Fisheries Development and the Commercial Artisanal Fisheries Development Programmes. Under modernisation, modern fishing equipment, infrastructure and other support facilities were promoted to increase productivity. In addition, new scientific knowledge of fishing and aquaculture was used to boost economic activities in rural communities using rural



development initiatives. The placement of Fish Aggregation Devices (FADs) and the offer of better fishing equipment, including boats and facilities under decentralisation, promoted the use of offshore fisheries over inshore resources. The blind following of decentralisation is shown by the effort to spread the development projects widely across the country, including areas where these could never have succeeded. People's prior experience with commercial activities and their location were not used or evaluated to determine their suitability for the subsequent proposed development activities. In spite of incentives such as better prices for offshore species, subsidised fuel and gear and appropriately equipped fishing boats, the results were disappointing.

The rural development projects were not properly thought out because the approaches on which they were based did not reflect local realities and were based on conflicting objectives. The costs of operating the ventures differed and affected the viability of the development activities in different areas. This explains, in part, the failure of the case study projects in areas such as Lomaiviti. In this particular case, the promotion of value-added activities such as the sale of sun dried and smoked fish rather than fresh fish may possibly result in better chances of success.

Development approaches such as modernisation are driven by donor and development agencies to support the interests of foreign companies (such as with the seaweed farming project) or governments without regard and consideration to their relevance locally. In many instances, villagers were unfamiliar with the technology, were inexperienced and lacked the business acumen to successfully perform the required development activities. Commercial fishing activities, for example, require that fishing be conducted at a consistent level for the ventures to be viable. Viability differs from place to place depending on the circumstances of the people and what infrastructure is in place. The use of ice, petrol, labour, and markets imposes additional nontraditional costs that affect the viability of the fishing operations in different areas.

Commercial activities require good business acumen, an attribute which most village people in Fiji are unaccustomed to (Nichols and Moore 1985:9; Lindley

1999:24). The requirements to meet the costs, organise regular fishing operations, maximise catch quality and secure good prices for their products are unfamiliar to most villagers. In addition, commercial activities require the maintenance of accurate records of transactions and activities that should be discussed regularly with the members of the venture, who need to be aware of what is happening. It is also likely that people will be more committed if they are confident that their venture is well-managed. The questions of consistency and the relationship between entrepreneurial practices and Fijian tradition have not been understood. For example, most of the Fijian communal fishing ventures eased off the fishing after their initial enthusiasm waned and the benefits appeared marginal. In these circumstances, the people returned to their customary subsistence schedules and fished only when they needed money.

The current observation of funding periods is a problem because it has compromised the integrated approach required for meaningful participation by local communities. At present, project proposals are submitted within a given time to be considered. Consequently, there is haste to submit the proposal and to commit the money. Such a practice does not allow for the consultation that is necessary in the type of interactive process that is required. This affects the formulation and implementation of rural development projects and needs to be addressed in the design of new approaches.

The two development activities were externally driven, whether in terms of formulating the project, identifying the need or determining their objectives. For example, the boat building project was largely dependent on Japanese aid while the seaweed farming project was spearheaded by New Zealand aid and a New Zealand company. While such support has made significant contributions, the development activities may not be consistent with what the people needed or were prepared for, particularly since people unfamiliar with local conditions or socioeconomic constraints planned these activities. These development activities were then imposed on villagers who were enticed to be involved with lucrative yet untested propositions and short-term subsidies and grants. These external agencies often promoted the strengths of the project and disregarded the challenges and risks, and consequently unrealistically

raised people's expectations. As a result, people agreed to be involved in projects that they were unfamiliar with without properly assessing their capacity to cope (Rodman 1989:82).

The villagers' lack of training and familiarisation made them oblivious to the realities of undertaking rural development activities. For instance, people in one of the main seaweed farming villages were given punts without engines when they were first involved in the project. The villagers complained of the difficulties of working with such punts and stated their preference for motorised punts. Subsequently, the villagers were given motorised punts. But subsequent complaints were made, this time about the cost of fuel and how some people were fishing or diving for coral (rather than tending to their farms) to earn money for fuel. In this case the development activity had become too expensive and the people could no longer meet the associated costs. With the boat building project, most of the fishers complained about the interest rates and how they could not possibly repay amounts that were in excess of what they had borrowed. It was obvious that the people lacked an understanding of the principles of borrowing and interest rates.

Rural development activities based on unacceptable and nontransferable development approaches assume that conditions in different places in Fiji are homogenous. In both the boat building and seaweed farming projects this was not the case. Only the people with the perceptions and motivation to maximise their production succeeded. In most rural settings, indigenous Fijian value systems, social conditions, expectations, and obligations resulted in low production that was inadequate to satisfy targeted national productivity levels.

The government's rural development approaches tended to introduce blanket development activities that ignored the varying conditions in different areas. The socioeconomic conditions, for instance, varied depending on the location of the village vis a vis the markets where their products were taken to. The state of the infrastructure in a locality is also important because it influences the time taken and the quality of the commodities that reach the market. It seemed most development activities were viable in places close to the main centres, but were uneconomical in more distant areas. This proximity to markets, and other considerations, such as availability of finance and other

support facilities, access to government services and the nature of settlements people live in, must be considered individually because people in all parts of the country do not have equal opportunities for successful development. The boat building project illustrated differences in the influence of these factors between how they affected the indigenous Fijians, who were dependent on government development initiatives; and the Indo Fijians, who were more self-determined and self-reliant.

Community projects that were promoted in rural areas under various development approaches were prone to failure unless there was good leadership. The emphasis on maximising the impact of projects and taking advantage of communally owned resources disregarded the traditional divisions within the communities. Community projects were promoted for these reasons but were found to be hard to organise. For example, every member of the community had the same right to comment on the project whether they were active members or not. These incited periodic conflict within the group.

The factors that need to be better addressed in future fisheries development initiatives are summarised in Table 8.1 and are discussed in detail below.

**Table 8.1 Factors that need to be better addressed in future fisheries development projects.**

Performance criteria	Elements and process
Appropriateness	Proper consultation and realistic planning
	Understanding sociocultural conditions
	Accommodating environmental change and damage
Cost effectiveness	Meeting loan repayments
	Considering the costs and benefits of projects
	Identifying the cheapest alternative
Effectiveness	Formulating effective leadership system
	Appropriate training and capacity building
Efficiency	Establishing institutional arrangements and linkages
	Conducting monitoring and evaluation
	Providing marketing infrastructure

Source: Veitayaki, 1998. Field data

### 8.2.2 Appropriateness

Issues explored in this section include proper consultation and realistic planning, understanding diverse sociocultural conditions and accommodating environmental change and damage. Poor planning and inadequate consultation of the people are problems faced when rural development

activities are not appropriately formulated. In planning rural development, it is important to consider issues such as the size of the targeted resource, the state of post-harvest handling and marketing facilities, costing, appropriate technology, the people's level of preparedness and the level of resource exploitation. Such close scrutiny does not occur when people are hastily encouraged to be involved in externally formulated development projects. As a result, people are engaged in development activities when they do not fully understand the requirements. Villagers, for instance, are expected to regularly produce and meet their commitments. These commitments demand that the villagers adjust their lives to allow them to cope with the requirements of the project. The projects are also incorrectly based on the assumption that people are passive recipients of state action (Overton 1988:10). Villagers who fail to make the necessary adjustment lose whatever investments they have made to be involved in the project. Furthermore, this approach is not based on what the majority of the people desire.

Communally-owned commercial ventures normally do not pay for the work performed by their members. This arrangement is counterproductive in the long run and is commonly associated with mismanagement, as local officials may also misappropriate project funds and resources. The system burdens the people with extra work but reduces the chances of stimulating economic growth in the village. People in these situations complain of the deteriorating quality of life. Although the arrangements have worked in some cases, they have failed in most because people very quickly lose hope and interest in the development activity.

Some people in rural areas regard development projects as opportunities that will enable them to access government assistance. In some cases, con artists have hijacked rural development projects. These people are true adepts at benefiting from development projects. Villages under the influence of these people often hurriedly put together their contribution to be involved in a development activity without conducting the necessary assessments.

Rural development projects constitute an integral part of local communities and therefore should be planned to reflect the local situation. Experience with development projects shows that it is counterproductive to involve people in

top-down government initiated and donor driven development projects if these projects are not carefully planned to suit particular local situations. Similarly, consultation with the communities is important to ensure that the development initiatives relate to what the people want and are prepared to commit themselves to. The Fisheries Division, to aid its decision-making process, should prioritise development programmes, on the basis of the economic potential of exploiting the fisheries resources, the people's capacity to undertake such initiatives and the opportunity costs for both the government and the community.

The boat building and the seaweed farming projects were earmarked for indigenous Fijians in rural areas in accordance with the 'basic needs' approach. With these initiatives, little effort was spent on determining whether the people were prepared to participate in the desired activities and had the motivation required to be involved at the levels envisaged. It was assumed that the people were capable of meeting the requirements of a commercial activity. In the boat building project, consistent fishing was needed to allow the fishers to repay their loans. However, the low production and irregular fishing trips that were common for indigenous Fijian fishers in villages militated against the national goal of increasing fisheries production and income earning. The majority of communal fishing ventures struggled to meet their commitments and goals, such as the repayment of loans and the provision of income to villagers. These conditions were also mentioned by Rodman (1989:104) and Lindley (1999:24) in their respective work in Vanuatu and the Solomon Islands.

With the seaweed farming project, it was assumed that the seaweed farmers would maximise their output to gain higher incomes which would improve living standards. However, this objective was easily achievable because of the people's meager requirements. Thus, people's needs determined how much effort they were supposed to put into earning money. The farmers did not take advantage of the opportunities provided through the project. Unfortunately such low production and income did not augur well for the industry and ultimately led to its collapse.

An interesting feature of the boat building project was the marked differences in the performance of the different racial groups. Indo Fijian fishers did much

better than their indigenous Fijian colleagues and, by 1997, owned more fishing boats than the indigenous Fijians, who had been given all the incentives. Although most of the indigenous Fijians were provided with training and financial support, they did not succeed. On the other hand, the practical experience of most of their Indo Fijian counterparts was more useful. Hence, the decision to target only the indigenous Fijians could, in hindsight, only be justifiable under welfare objectives rather than commercial objectives.

Consultation with the communities involved in fisheries development was not taken seriously because it was considered unimportant and it would cost time and money. The two case studies show that the government was incorrect in assuming that the indigenous Fijians were prepared for the commercial projects. As a former fisheries official lamented, 'The decision to earmark the project for indigenous Fijians is wrong because they prefer to work two days a week compared to the seven that is needed for viable development activities'. Moreover, the people did not appreciate the requirements for consistent effort, well-managed resources, maximum production and good leadership. This is why people need to be consulted about the development activities they are to be involved in.

Project performances and sustainability were hindered by unrealistic and ineffective institutional arrangements and a general lack of sustained commitment in the communities involved in the development projects. These inadequacies would have been identified had the planning and consultation involved proper socioeconomic assessments. With the communal ventures, for example, people were not rewarded individually for their work. Consequently, the interest and commitment in communal ventures quickly dissipated, as there were no effective enforcement systems and because of the 'free rider' problem. Moreover, the institutional arrangements were commonly associated with a chiefly system or a village administration that was only effective in some instances.

Indigenous Fijian villagers live in social surroundings where their strength is associated with their contribution to communal activities (see Section 3.2.3.1). The pressure on operators of commercial ventures from their relatives and colleagues was rarely mentioned but is always present. People also faced

difficult choices such as whether they wanted to put in the long hours of structured work, or whether they wanted to continue with their traditional lifestyle. In the villages, community chores involve voluntary work in which everyone in the village is expected to take part. This is a hindrance to villagers who want to concentrate on commercial fishing.

I agree with Carleton (1983:1), that the basic structure of the subsistence sector is not conducive to the regular supply of fish to the urban markets and that collection schemes should only be offered as a social service after there has been proper planning on how the schemes can operate economically. Moreover, government officials are not professionally experienced or sufficiently knowledgeable to conduct commercial operations and therefore, despite best intentions are not the best people to manage these operations. Despite earlier warnings about the impracticalities of operating such schemes, similar arrangements such as the Republic of Fiji Military Forces' Operation *Veivueti* ('to revive') were instituted, while other new proposals are still being contemplated (Fijilive 1999e, 1999f).

Environmental considerations should now be a part of any rural development activity. The changing environmental conditions coupled with the intensive use of resources associated with rural development activities require that stringent environmental management measures be undertaken. In addition rural development that promotes the sustainable use of environmental resources such as the observation of marine conservation areas should be widely promoted.

### **8.2.3 Cost effectiveness**

Cost-effective considerations are crucial to ensure that the development initiatives improve the economic conditions rather than create economic burdens for the people involved. The issues discussed in this section include meeting loan repayments, considering the costs and benefits of projects and identifying the cheapest alternatives. Cost benefit analysis is considered when not all costs and benefits can be identified or measured. It is required to ensure cost effectiveness, economic viability of development ventures and the realisation of the objectives of the project.



The importance of cash control is critical. This is why civil servants are not good at operating commercial ventures (Carleton 1983; Lindley 1999:24). According to an Agricultural Loans Manager at the Fiji Development Bank (FDB), good cash control and management are as important as the ability to fish. Commercial fishing is a relatively new activity for indigenous Fijians, and factors such as fish types, quality of catch, prices and regularity of fishing determine the income levels. It is important that commercial fishers fish regularly. In addition, it is also critical that cash be used sparingly. The practice amongst indigenous Fijians of freely lending to relatives and friends is a burden on commercial village ventures.

Commercial fishing ventures also need to be economically viable if they are to be sustainable. It is important that fishers recover their costs on the majority of trips. Factors that need to be considered include the costs of the operation, desired income and sociocultural commitments. For instance, it is important that the expenses are kept as low as possible and that these costs be directly related to the fishing operation. Furthermore, fishers should maximise their income by aiming to sell their catch at the highest possible price. Selling prices are determined by the type of fish sold, which is related to the type of fishing conducted, and the quality of the catch, which, in turn, is dependent on the place where the fishing is conducted, the fishing methods used and how the fishers treat their catch.

Loans are an integral part of the fisheries development initiatives in Fiji because of the investment people are required to make. Financial assistance is offered through the FDB and other sources of funding. People were required to submit loan proposals and provide deposits, which restricted people's involvement (Hailey 1988:49).

However, some of the people who took out loans did not fully appreciate the requirements until they were into the first few months of their operations. These fishers were so focused on securing the loans that it normally took some time before they realised that the repayments they had agreed to were much more onerous than originally thought. 'Many proposals and ongoing activities were optimistic with regard to either the availability of the inputs that were required or the potential outputs that could be achieved' (Joint Fisheries

Strategy Mission 1988:15). As a result, the projects were based on false assumptions that undermined their success.

Regular loan repayments are difficult to make in rural areas, where the people are far from the main commercial centres where their repayments are to be made. Regular repayments demand regular fishing, which is often not the case. Moreover, in villages, people can face situations that require them to use whatever money they have to meet their traditional obligations. This is a common problem, particularly with communal ventures which are asked to meet miscellaneous communal expenses. Loan repayments are particularly hard after arrears have accrued. The problem is exacerbated by the interest on the principal, which is compounded by default in repayments.

Consequently, some fishing groups took up to a decade to repay their loans, while other groups gave up very early into the loan repayment period. This is why 'Repayment of loans and persistence, even at a low level of activity, are key indicators of a project's success' (Rodman 1989:63).

The financial analysis for some of the fishing boat operations shows interesting features (Table 8.2–Table 8.6 in Appendix 2). However, several assumptions about operating costs have been made because of the failure by many of the boat operators to maintain either financial or catch records or both. These assumptions are based on information obtained in the field interviews and other published reports. For instance, the operating basis of each vessel is assumed to be 36 trips over each of the first four years. This is based on anecdotal evidence that the majority of the interviewed fishers considered three trips each month to be the minimum operational basis for profitability. In addition, the field research indicated that it was common for vessels to achieve a saleable catch averaging 125 kilograms per trip. The sale price of the catch was determined by criteria such as overall quantity on sale in the market and quality, type and size of fish in the catch.

Typical annual operating costs for 11 boats in the case study are presented in Table 8.2. The average annual operating cost before interest and depreciation was F\$18,468, whilst the average annual operating cost after interest and depreciation was F\$21,609. Individual annual operating costs before interest and depreciation ranged between F\$9,730 and F\$30,520. Individual annual

operating costs after interest and depreciation ranged between F\$12,774 and F\$33,247.

Aside from fuel, repairs and maintenance and crew's wages and rations, the next biggest expense, for most vessels, was interest on the purchase loan. Those boat owners who did not borrow to purchase their vessels did not necessarily have the lowest operating costs. These figures made no allowance for penalties or fees for arrears or costs of repossession in respect of those fishers with loans.

The operating costs of each vessel recast on the basis of 24 trips over each of the first four years is shown in Table 8.3. The variable costs, that is, all costs other than interest and depreciation, have been apportioned over 24 trips. The fixed costs of interest and depreciation remain unchanged regardless of the number of fishing trips made each year. The average annual operating cost before interest and depreciation was F\$12,312, whilst the average annual operating cost after interest and depreciation was F\$15,453. Individual annual operating costs before interest and depreciation ranged between F\$6,487 and F\$20,347. Individual annual operating costs after interest and depreciation ranged between F\$9,531 and F\$23,074.

Table 8.4 compares the loan repayments for the same loan amounts at the subsidised and commercial interest rates of 5.5 per cent and 11.5 per cent respectively. A common complaint made by boat owners was the high costs of the loans. From this table, it is obvious that the interest rate and loan repayments were approximately half the commercial rates. Naturally, the average cost of interest per trip increased as the number of fishing trips per month decreased.

The economics of an operation using the average costs based on 24 and 36 fishing trips each year, assuming a saleable catch of 125 kilograms at various prices, is shown in Table 8.5. Using the average annual operating costs after interest and depreciation and the average catch and sale prices, it is clear that the typical fisher would not make any profit unless the catch was of the highest marketable quality. This was rarely achieved. Therefore, in hindsight, the bulk of the boats were always on the verge of being non-profitable. This was substantiated by one of the fisheries officers who spent seven months

operating one of the boats as a deepsea fisherman but found that even with his salary, he could not make ends meet (Personal communication, Fisheries Division, October 20, 1997).

Table 8.6 provides an overview of a typical vessel's economic profile over a 10-year operating life. The average annual operating costs (after interest and depreciation) are based on 36 trips each year and a catch sale price of F\$3.75 per kilogramme, which was the average in 1996 (Fiji, Ministry of Agriculture, Fisheries and Forests (MAFF), 1996a:8).

Depreciation has been calculated on a 'sum-of-years digits' basis and it is assumed that each vessel has a life of 10 years with no salvage value. In reality, many of the vessels purchased by the indigenous Fijian trainees were, within the first three years of operation, either repossessed, irreparably damaged or beached, lost at sea or sold to Indo Fijians. Accordingly, whilst the vessels were capable of a 10-year working life, the greater majority of the indigenous Fijian trainees who were interviewed in the field research did not operate the boats beyond more than three years. Therefore, for the typical indigenous Fijian trainee, any net profit for the first few years of operation would have been wiped out by the eventual loss of the investment when the boat was either sold at below market price due to the boat being damaged or badly maintained or repossessed. As many of the trainees had not insured themselves or their vessels, the loss of their respective vessels did not automatically clear their indebtedness to the FDB in respect of the loans used to acquire the vessels. Consequently, many of the indigenous Fijian trainees were left without the means of a commercial fishing livelihood but burdened with repayment of a loan for which there was no remaining asset.

#### **8.2.4 Effectiveness**

Effectiveness measures the extent to which programme outcomes reflect the programme objectives. Effectiveness assessments should be worked out both at the project and national levels to ensure that project outcomes reflect the people's expectations at both levels. Issues that will be discussed here include the formulation of effective leadership system and designing appropriate training and capacity building schemes. In the seaweed farming project, most of the farmers were not aware of the importance of producing consistently

good quality dried seaweed. Consequently, low quality production was a problem, because the majority of the farmers were content with whatever income they made and were not interested in maximising their earnings.

It is common for the people involved in development projects to have objectives that differ from the national ones. Income earning is emphasised in most development projects. Individually-owned ventures are well run because the owners are committed to them. The communally-owned projects, on the other hand, are more demanding to manage because the people involved are not all highly motivated and devoted to the effort. Decision-making is harder and there is the need for good, fair and strong leadership. The commercial ventures are the most successful, as the people involved in them are consistent and determined to maximise their income.

Community projects are difficult to organise because of the sociocultural situation. Village life, for example, is flexible but stringently organised in terms of the work that should be done for the community. Hence, development activities have to be integrated with traditional village life in rural areas. This is a major rural development challenge, as these development activities require concentrated commercial effort by the people. This often clashes with village schedules that leave people with less time for the commercial activities.

Common problems that have hindered indigenous Fijian participation in economic activities include: a slack and casual attitude, the lack of will to stand out against the demands of kinsfolk or to follow through in a recognisably desirable course of conduct, careless and frivolous spending, throwing away future gains for an immediate gratification, and the desire to impress by conspicuous expenditure (Spate 1959:36). Life ceremonies and *kerekere* (system of borrowing) are phenomenal and economically disastrous (Spate 1959:26; Ravuvu 1988a: 200; 1988b:73). In addition, there are failures in elementary planning - with an over estimation of supplies, failure to allow for losses in transit and depreciation, inability to recognise the importance of overheads, and carelessness such as in the shipping of damaged or inferior product. The majority of indigenous Fijian businesses lack attention to detail and have difficulties with deadlines, oversupply, wastage of materials and time, and poor customer service (Qalo 1997:138).

The majority of indigenous Fijians have not appreciated that commercial operations require consistent effort, good quality produce, well-kept records, good management and vibrant resources. As Overton (1988:162) explained, no matter how strong the commercial group, villagers are surrounded by alternative and competing activities vying for their land, labour and time. People's expectations and projections need to be nurtured through good training. For instance, the indigenous Fijian traditions of acquiring things by asking from one's relations (*kerekere*) and the use of time need to be appreciated (Watters 1969:257-60; Nayacakalou 1978:102).

It is common for people in rural communities to hurriedly take up development activities without assessing their capacity for viable operations. People take up the development activities because they hope to achieve the fulfilment of promises associated with these initiatives. These promises prevent the people from asking whether they are in a position to operate a viable venture because they place their trust in the developments and the system that promotes them. According to the then Agricultural Loans Manager at the FDB, the socioeconomic assessments conducted were inadequate to distinguish the problems in the proposals, as the people presented favourable conditions many of which were unrealistic given the conditions on the ground.

Indigenous Fijians are used to working as a group and being led. Therefore, the onus is on the village leaders to provide effective contemporary management that will inspire and motivate people. This was why most of the trainees faced difficulties in leading their ventures. Interpersonal relations in the villages were difficult to keep under control. Gossiping in rural communities flourishes and leaders need to be good at resolving conflicts. The experiences with development projects highlight the need for proper preparation that takes into account all these considerations. Moreover, unless people are experienced or properly trained in the development activity, it will be ludicrous to expect them to do well.

Leadership in Fijian commercial activities is no longer the birthright of chiefs and traditional leaders. It is complicated and unfamiliar and requires new skills, vigour, vision and commitment. Furthermore, good leadership needs to be

founded on a genuine concern for the people involved in the development activities.

The choice to offer incentives only to indigenous Fijians and to exclude other racial groups while understandable in affirmative action terms, was ill conceived in a number of ways. Indigenous Fijians are not the only disadvantaged people in the rural areas and often are subjected to sociocultural pressures that hinder the viability of their operations. Members of other ethnic groups, particularly Indo Fijians, can also use the assistance offered by government and may do better, as they are free of the cultural pressures that hinder the performance of indigenous Fijians. In addition, they are usually more cognisant of modern technology requirements and are unlikely to confuse social and commercial activities. It is more likely that the national goals of the projects would be achieved if the Indo Fijians had been encouraged to participate in the development activities.

These affirmative policies not only exclude members of racial groups who can make a significant contribution to the projects, they could also reduce the dependency that has hindered the involvement of indigenous Fijians in commerce. Such dependency erodes the indigenous Fijian people's self-respect and self-reliance (Kasper *et al.* 1988:40). This is why it is imperative that only the people who prove they can help themselves in their chosen activities should be given the assistance they require. The affirmative schemes in use at the moment prohibit the involvement in development projects of people who qualify but are not from the favoured ethnic groups. Previous experiences have shown that most of the people in the villages are not ready to be involved in commercial development activities. Why then should they be enticed into something they are not prepared for? At the moment, some of these people are involved because of the incentives they are given and not because of the potentially favourable economic conditions that a successful venture would promote. Consequently, the people's lack of preparedness means that they not only fail as a group but contribute to the failure of the project at the national level. These failures make people feel ashamed and mean that there is a waste of resources that otherwise could be used relatively

more efficiently by more deserving people who are excluded because of their ethnic origin.

Through its affirmative policies and strategies, government is intentionally targeting the disadvantaged while at the same time restricting its effort to succeed with the development activities. This approach is unlikely to succeed unless the aim of the exercise is related to social welfare. For commercial operations, the system should be based on commercial merit and involve people who are prepared and are aware of their responsibilities. Unfortunately, the use of aid grants and subsidies makes it tougher for the private sector to contribute to rural development.

According to one of the fish merchants in Labasa, 'Indigenous Fijian fishers live for today and work only when they need to'. On the day of the meeting with this merchant, an indigenous Fijian man arrived to sell a basket of three crabs worth F\$26. The man took two days to make the round trip to the Labasa market. In commercial terms, the trip was not cost-effective, but is common in villages where subsistence and commercial economies intermingle. Villagers take a trip to the market whenever they find enough of the commodity they want to sell. Even the fishers were not certain as to when their next marketing trip would be. For this reason, the merchant argued that fisheries development involving indigenous communities must be well thought out and take into account the fact that people will not devote consistent attention to their development activities. At the moment, people are only partially involved in commercial activities, as they devote time to other traditional sociocultural activities.

This point was supported by another fish merchant in Suva. According to this merchant, their biggest challenge is that they work within a cultural environment where the fishers do not work consistently. This company has tried to work with as many fishers as possible in order to identify a few good ones. The company maintained the same price to give fishers some idea of what they could earn to motivate them to maximise their catch (Personal Communication, January 21, 1998). According to the fish merchant, such individuals were found at the rate of two or three out of every 50 villagers. At present, the company has at any one time 28 good fishers fishing for it.



Fiji, like most countries in the region, has inadequate human resources in its fisheries sectors. Training is critical because of the unfamiliar nature of the fisheries development activities. However, the assumption was that if basic training was provided to a minimum number of people, enough impetus for commercial fishing would be generated. This was not the case. Trainees in the projects were sometimes incompetent and mismanaged the operations. In other instances, the trainees were unable to impart their knowledge to other group members and were also replaced by other members of the group. This was a major cause of the demise of many of the ventures. According to the then Agriculture Loans Manager at FDB, 'A third of all the failed loans were associated with technical inexperience and lack of mechanical skill'.

The lack of trained fishers in many instances resulted in low productivity. Many of the fishers involved in the boat building project had never before operated a motorised vessel and so lacked the technical knowledge to operate and maintain their vessels. Regular maintenance was often ignored and the boats were poorly kept. These novice commercial operators lacked the skill and competence to plan and conduct viable economic operations. These ventures were managed according to the villagers' flexible rota. The problems relating to these inadequacies were often not realised until it was too late to save the project.

There was little consideration of the suitability of the candidates to attend training classes. The selection of trainees was based solely on the proposals from the local communities and the endorsement of the *tikina* (traditional Fijian district) and/or provincial government officials. In some cases, people nominated their friends and relatives for inclusion in the training programmes. Consequently, some of the trainees, on return to their villages, were unable to lead the fishing operations, train the rest of the members or assist in managing the project. Many of the trainees struggled to complete their course satisfactorily. It is also difficult for young trainees to train more senior village members who are much more experienced. This problem is exacerbated by the villagers' intimate familiarity with each other's competencies and shortcomings.

Training and capacity building are also important because of the changes that people need to make to become commercial fishers. According to a Fisheries Division official, the RFTP should have been longer to give all the skills that the fishers required. The skills required to carry out the commercial fishing activities, handle and process the catch and organise marketing were in most cases previously unknown to the people in rural communities. The villagers therefore needed to be trained to understand the significance and requirements of a commercial operation. According to a recent study, the trainees such as most of those involved in this project, require a minimum commitment of 15 hours per week over two months to retain basic skills (Douglas 1996:117). With the range of skills that the trainees were required to learn, there are serious misgivings about the suitability of the five to six-month course for the fishers. Furthermore, there was little training within the fishing communities so the people were largely unaware of the requirements of a successful commercial venture or of the objectives of the overall programme. Human capacity is critical to fisheries development because of the new skills that people need to acquire and excel in. Some of the seaweed farmers planted their crops but did not observe the necessary regular maintenance. Consequently, production was irregular and poor.

In many communal projects, people volunteered their labour. These ventures were dependent on the goodwill of individuals who could not be forced to observe regimented employment because they were volunteers. It was therefore inappropriate to expect the committees to meet regularly and for people to do something by a given time. In all these cases it was up to the individuals, depending on their commitment to the venture. People handling finances for communal ventures often had little money of their own and were tempted to misappropriate project funds for the same reasons. Stories abound of catches that were sold before the vessel returned allegedly empty to the village or catches exchanged for liquor and money on the way to the markets. Most of these ventures were mismanaged and folded prematurely.

### **8.2.5 Efficiency**

Efficiency is the extent to which the programme inputs are minimised for a given level of programme outcomes. Issues examined here include

establishing the institutional arrangements and linkages, conducting monitoring and evaluation and providing the required infrastructure. The Fisheries Division was solely responsible for all aspects of fisheries development in Fiji. The Division looked after research and development work, extension services, selection of participants, training, marketing and the arrangement of financial assistance. The institutional arrangements proved to be inadequate for the variety of development activities that were required. The result was a piecemeal approach to fisheries development. Fisheries development activities were looked after by fisheries officers who were responsible for all aspects of their respective projects.

In the two case studies, the Fisheries Division had worked with other government organisations, NGOs and private companies but inadequacies still existed and have to be addressed. Fisheries development proposals submitted by the Fisheries Division were initially merely endorsed by the FDB. Later, the FDB realised the inconsistencies. While the Fisheries Division wanted to offer loans to as many of their trainees as possible, the FDB expected more realistic assessment of potential clients. Consequently, the FDB decided to conduct their own independent detailed project appraisals because they could not rely on all the figures in the proposals from the Fisheries Division (Qarase 1988:238-9). This point illustrates the problems associated with poorly planned and hurriedly formulated proposals that seem all too common in externally driven projects.

Furthermore, the use of the wrong indicators to measure achievement under the development projects gave the Fisheries Division a false sense of accomplishment. How much work had been achieved through the two projects was based on the number of people trained, the number of boats built and sold, or the number of farms established at a certain time. Such indicators said little about the performance of the people involved in the projects. Indeed, none of these indicators described the actual work or how the people performed. There was little evaluative work. Some fishers accused the Fisheries Division of overlooking them from the moment their loans were approved. According to these fishers, they were on their own until they ran into difficulties. In addition, there were concerns that Fisheries Division records

were poorly kept and disjointed. Moreover, the FDB was alleged to have been insensitive to the difficulties the people faced and did not provide adequate follow-up action. The Fisheries Division, the FDB and other institutions involved in the projects did not study the performance of people involved in the development projects to see if they were performing and achieving the objectives they had set out to pursue.

All of the attempts to bring the markets closer to the people have been disappointing because the people eventually lost interest or they produced substandard produce. The long distances, the high cost of transportation and the uncertainty of products harvested by artisanal and subsistence fishers made the prospects of success of such operations highly unlikely.

Furthermore, a great deal of work was needed to improve the quality of local products, to meet the rigorous quality standards demanded by urban and export markets. This is one of the reasons why local communities need to be involved in the training and follow-up exercises.

The influences of infrastructure, distance and the people's ability to meet the demands of the development activities had not been carefully assessed. As a result, people generally did not appreciate the magnitude of the challenges associated with their chosen development activities until they were faced with reality. This is why people started their development activities with such vigour and enthusiasm, which quickly dissipated as the first signs of trouble emerged. At such times, the villagers disregarded their own contributions and all the costs they had incurred up to that stage and treated the failure as only a loss to government or the bank. The opportunity costs of the people's own time and money was often ignored.

The socioeconomic conditions in different areas within a country need to be acknowledged and factored into the implementation of development projects. For example, the people in rural Fiji are highly dispersed across many islands and are low in numbers. These conditions affect the markets and infrastructure. Moreover, the majority of the people are part of subsistence communities where bartering is extensive. There is little trading and specialisation in spite of government's desire to promote these, create marketable surpluses and increase the availability of cash for school fees,

taxes, imported household goods and nontraditional food (Carleton 1983:2). The characteristics and motivation of the people involved in the projects influence their economic viability. In addition, the location of the venture, the type of equipment used and the type of activities conducted influence the costs. For these reasons, people in areas closer to urban centres incur fewer expenses compared to those further out.

The commercial fishers in Labasa now demonstrate the type of impact that was intended for the boat building project. In 1998, fishers in Labasa received F\$3.50 per kilogram for Grade I, F\$2.50 per kilogram for Grade II, F\$1.50 per kilogram for Grade III and F\$1.20 per kilogram for Grade IV. These fishers therefore appreciated the importance of presentation and quality because these factors together with the type of fish influence the price they obtained. Approximately 16 tonnes of fish left Labasa for Suva each week, where they fetched higher prices of around F\$6.50 per kilogram for Grade I, F\$4.95 per kilogram for Grade II and F\$3.95 per kilogram for Grade III (Personal Communication, Senior Fisheries Officer Northern, January 26, 1998).

However, there were also complaints in Labasa that the markets were under the control of a few major merchants who had formed a cartel and were hampering commercial fisheries development. The fishers complained that the middlemen and fish merchants purposefully paid them low prices to increase their own profit margins. The fishers argued that fish marketing was highly controlled by traders who were also providing the ice, credit and berthing spots. The fish merchants provided the safety nets that the fishers relied on in times of need. One of the fish merchants, for instance, offered his fishers secured berthing spots at the rate of F\$5 per week. In addition, the merchant provided financial assistance to his fishers. At the time of the interview in 1998, this merchant was owed about F\$9,000 because of this arrangement. These types of arrangements, the fishers argued, need to be addressed to ensure that the required facilities are provided and that some people do not unfairly benefit from development projects.

In most of the rural areas, the infrastructure is underdeveloped and needs upgrading. The main communication and transport networks, markets, financial outlets and other related services are still inferior to anything

encountered in Southeast Asia (Fisk 1995:230). The development of facilities such as roads, wharves and jetties, ice plants and extension offices to stimulate the involvement of people in rural development activities has featured in the government's rural development plans since independence. However, the use and upgrading of some of these facilities has been dismal in many areas. For example, the construction of ice plants in different parts of rural Fiji as part of the attempt to promote decentralised growth has resulted in some expensive but underutilised facilities in areas such as the ice plants in Kadavu, Lakeba and Taveuni. This again suggests the inappropriate nature of the approaches employed and the lack of proper assessment before the development projects were undertaken.

The deployment of foreign aid has provided new equipment and facilities but these need to be aligned to the needs of the country (see Table 5.2). Common problems with donor-supplied development include delays in delivery, support of nonspecific items and provision of over sophisticated equipment (Joint Fisheries Strategy Mission 1988). The case studies have shown both the importance of genuinely involving people in development activities and the problems that result when this is not observed. The provision of aid alone will not make any lasting impact.

New opportunities that people could access because of the development projects were best realised by those who operated successful ventures. People who did not do well lost their standing in society and received poor credit ratings at the FDB. This was a blow to the effort to involve people in rural areas in commercial activities because these people were unlikely to be given assistance on subsequent projects after this unsuccessful earlier attempt. Most of those involved in failed development projects had acknowledged their mistakes and were adamant that they would do better with the next venture now that they had commercial fishing experience.

Efficiency was affected because the extension services were reactionary and piecemeal. The Fisheries Division and the FDB extension units were overwhelmed by the work they had to cover throughout the country. People were enticed to take part in development activities with little thought given to whether the conditions in their area were conducive to the initiatives, their

requirements and objectives. This approach was counterproductive and needs to be changed so that more realistic assessments are conducted on the effects on society of planned development.

The efficiency of the projects was also affected because the institutional arrangements at all levels were inadequate for the type of work needed. The Fisheries Division, for instance, was in no position to address the needs of the people involved in fisheries development activities. They were expected to do the planning, research, extension, development, monitoring, evaluation and marketing. The result was that the development activities were left to evolve on their own. Records were poorly kept and there was no monitoring and evaluation. At the village level, local committees were set up in an arbitrary fashion. People did not appreciate the roles of these committees and so did not allow them to function efficiently.

Finally, there was no evaluation of the projects or of the main lessons they presented. Government departments did not learn from past mistakes or the results of previous projects. These deficiencies were identified by some of the Fisheries Division officials who were interviewed. Similar comments are also highlighted in a recent report about economic strengthening of fisheries industries in Small Island Developing States (SIDS) in the South Pacific (Doulman 1999:3). The whole experience was based on trial and error. People participated in development activities that the officials had identified and just returned to their normal way of life when these projects failed. People did not keep reliable records and had short memories (Doulman 1999:4). Decision-making was based on hearsay and the untested projections that government officials made. There was little assessment of the communities' capacity prior to undertaking a development project. Committees were in operation but were ineffective, as the officials worked as volunteers and did not hold regular meetings. It was also difficult to keep track of the transactions because of poor records. Consequently, the lessons from earlier development activities were not used in the preparation of subsequent ones and the same mistakes were experienced time and time again.

### 8.3 Addressing the problems of development projects

Rural development activities in Fiji and other Pacific Islands need to be properly planned so that all of the important issues discussed here are addressed. Well coordinated commercial fisheries development plans are needed to ensure increased cost effectiveness of investment inputs and maximum opportunities for successful and sustainable projects (Nichols and Moore 1985). Project proposals for packaged development should be prepared for given areas where there is adequate infrastructure support to complement resource development inputs.

Higher priority should be given to involving the people in the planning and formulation of development activities. Moreover, the plans should take into consideration all the aspects of the development activities. The planning and consultation process also should involve people who are genuinely committed to the development work. It is also important that the people are provided with the proper services to facilitate their involvement in the development project of their choice. It is also important that the people are made aware of how their activities are related to the national objectives for the project. It is likely that the people will afford more attention if they are familiar with the desired outcomes of their activities at the national level (Naisua 1999:101-3).

Economic considerations are important because of their impacts on development activities. There is a need to ensure economic viability in the villages, otherwise the people are relatively disadvantaged. Consequently, all aspects of the development activities from production to marketing should be thoroughly assessed and catered for. Cost benefit analysis should be used by the promoters of projects to provide realistic ideas of the costs and benefits involved. Most projects were not properly scrutinised and people only ascertained the true requirements after they had started the actual project. Poorly thought-out development projects usually result in failure, causing the people in the communities to miss out on new opportunities they had planned and hoped for. Moreover, the people should be made aware of the principles of loans and their repayments.

It is hoped that scientific research can provide the basis for more sustainable resource utilisation. An ORSTOM (Institut Français de Recherche Scientifique



pour le Développement en Cooperation) study in Vanuatu illustrates the type of research required (Rodman 1989:71). According to that study, the estimated mean sustainable yield for fish at depths of 40 to 100 metres is about one kilogram per hectare per year. On that basis, it has been calculated that the mean sustainable yield for Vanuatu is less than 750 tonnes a year, which is enough to support only 121 Alia type boats (small catamaran fishing boats used in Samoa) a year. This type of assessment should now be considered in Fiji, where owners of customary fishing grounds grant the consent for IDA licenses. With the boundaries to the customary marine tenure areas already demarcated and registered it should be relatively easy to have some form of limit on the number of licenses offered in different fishing areas.

Training and familiarisation exercises are required, as people in rural areas, particularly those who have been involved in previous failed development activities, are skeptical about subsequent proposed development activities. Training and the development of local capacity are needed to provide people that are competent to undertake the chosen development activities. People in rural areas have little or no experience with development activities that emphasise the commercial exploitation of natural resources. For example, profit-oriented development activities require a consistent effort, with the proper management of time, money and resources. Investment in terms of time and money needs to be repaid through the earnings from the development activities.

The commitment of people to the project should be established before the actual development is undertaken. For instance, people to be involved in training should be selected objectively bearing in mind their intended tasks. These people should be required to pass some form of evaluation exercise before they are allowed to take up their position as leaders in the communities. The system of trainee selection conducted for the boat building project could not succeed because most of the trainees selected were not suited to the jobs they were to do. Some of these trainees were not thought of highly by the instructors; yet all these people were to lead development activities in their areas after they had completed their training (see Appendix 3). In addition, the

trainees must pass the training courses to qualify for loans and other assistance.

Training should be revamped to ensure that it addresses the needs of the trainees. The needs of the trainees should be assessed to ensure that all the skills they require are covered realistically in the training. These needs should be scrutinised by the trainers to ensure that they are consistent with the requirements of the development activities in question. Otherwise, government and the country will continue to lose, through resources that are squandered by people who do not use the opportunities offered to better their position and those of the people they represent.

In order to achieve more effective fisheries projects, the people involved in the development activities should be carefully chosen so that only those who are prepared to participate in commercial ventures are involved. People, for instance, need to be experienced in their intended development activity, show promise in terms of where they are and what they do, and have the resources and the drive to succeed in their chosen development activity. Experience in fisheries development up to now has highlighted the problems faced when people are ill-prepared for their development activities. Failed projects erode people's resources as well as their interests and confidence. Consequently, the country suffers because of the wasteful use of financial resources that could be more profitably used elsewhere.

Good, effective leadership is needed, requiring both traditional and contemporary skills. For instance, village leadership has to be competent in understanding the rhythm in the villages and in the villagers' business operations. Moreover, the leaders need to win the confidence of the people in the communities through their exploits as diligent workers with proficiency in arranging markets, loans and promotional activities. This is a rigorous requirement that should be addressed through appropriate selection processes, training and experience.

In addition, people involved in planning, implementing, monitoring and evaluating and leading development projects need to be made accountable for the development activities they plan and formulate. Likewise, local leaders need to be answerable for projects they direct. Failed development projects

should be investigated to highlight the problems. At the district and regional levels, government officers should be conscious of the needs and capacity of people in their areas, particularly those likely to benefit most from assistance and advice. People who blatantly mismanage and squander development project funds should be penalised for their indiscretions.

Village project officials, like everyone else in the village, need to support their families and therefore should be realistically compensated for the work they do for the community. As the commercial fishers' practice with respect to crew's wages, project officials' wages should be counted as part of the operating costs. This should allow the circulation of more money within the community and discourage these officials from misappropriating project funds. These project officials should then be expected to devote appropriate attention to the project. In cases where the officials are unpaid, the villagers cannot justifiably criticise them because these officials are volunteers. In addition, these officials are only devoting a part of their time and cannot be fully committed to the project. Thus, such necessary practices as the keeping of records and being accountable cannot be enforced. Record keeping is a prerequisite to good management that usually has not been observed in rural development projects. In addition, regular meetings should be convened so that the members of the group are regularly briefed on the activities and status of the venture.

Development activities cannot be expected to succeed unless the institutional and infrastructure arrangements are in place and operating properly (Walsh 1993). Institutions such as government departments, aid and donor agencies and markets are crucial to the successful operation of any commercial venture. Likewise, export-oriented fishing requires a minimum standard of transport, quality control, a source of capital and support services. Research about the resources and markets is also important and should be pursued as a priority and not as an afterthought.

A new method of introducing development activity is needed. This methodology should emphasise that all development work should be carefully scrutinised to ensure that the development activity is suitable for the people for whom it is earmarked and that the people are prepared to be involved in it.

The development work should involve all relevant bodies, including government departments, international development agencies, NGOs and the private sector. This is being practised in Fiji, where the Fisheries Division is already working with the private sector on creating a market for traditionally unknown fish and on expanding processing and market facilities (Personal Communication January 21, 1998). As in all business plans, the location and size of the operation should be based on accurate estimates of the productivity of different locations and the state of infrastructure. The result of such collaboration should be healthy for the industry. In addition, the Fisheries Division should be allowed to conduct the more pressing work of planning development and research while the important aspect of marketing would be the responsibility of the private sector.

The best way to ensure the rigorous and coordinated examination of proposals for development activity is to establish a statutory authority that monitors all aspects of development activities. The authority should have the mandate and capacity to assess the proposals and make recommendations on how the development activities should be undertaken. It would be set apart from the policy-setting goals, which will remain with the line ministries and other sector-oriented agencies. It would vet all project proposals and support those that are considered viable. The authority would also arrange financial assistance to those that deserve the development activity and offer other necessary support services.

#### **8.4 Conclusion**

Rural development constitutes an important area in Fiji and other Pacific Islands. The government has devised rural development policies and strategies but these are associated with inappropriate rural development approaches, poor project planning, inadequate economic considerations, misunderstood sociocultural conditions and inappropriate institutional arrangements.

The solutions to these problems require new development approaches. Development policies and strategies that reflect the socioeconomic conditions in different parts of the country should replace existing homogeneous rural

development approaches. Plans should be carefully thought out and accompanied by wide consultative processes that involve the people who ultimately will be performing the proposed activities fundamental to the development initiatives. The plans should also assess the suitability of different locations based on detailed economic and social assessments. The assessments also should consider the state of the institutions and the likelihood of these adequately supporting the development activity.

Rural development up to now has been problematic and expensive, with the number of initiatives that have failed a testimony to the need to adopt a new approach. This new approach should be adapted to the socioeconomic conditions in the country and be reflective of the requirements for more successful development. The proposed changes should provide development projects that are successful in terms of the benefits to the people involved and the resources that support the development projects.

## 9. The way ahead

### 9.1 Introduction

It is evident from the evaluation of the fisheries development projects conducted in this study that the failures of rural development projects are rarely caused by a single factor. Rather, the failures are usually the result of a succession of small failures, each building a sort of disastrous momentum until the accumulated errors are sufficient to end the projects. As a result, a project will continue to operate until the point of collapse is reached. This being so, a project's likelihood of failure can be minimised if sufficient of the factors that create this disastrous momentum are adequately addressed. The challenge then is to identify these factors that influence the outcomes of the development initiatives in an area and the ways of dealing with these to ensure that the intended outcomes of the development are realised.

Rural development is 'people, society and time specific' and 'dependent on the favourable interaction of political, social and economic forces at local, national and global levels' (Walsh 1993:A1.1). Despite widespread interest, problems with the formulation, implementation, and monitoring and evaluation of rural development projects still persist. The problems are caused by factors associated with the applicability and appropriateness of the rural development theories and approaches, appreciation of the diverse living conditions, efficiency of development assistance and the conflicting influence of people's cultures. In addition, the characteristics of most rural communities restrict their chances of accessing development opportunities and hinder the attainment of the intended outcomes of development activities (Mehta 1984:8). The restricted resources and capital and limited trained human resources have resulted in a succession of damaging rural development mistakes that make the actual outcomes fall short of the intended ones.

In many developing countries, externally driven rural development activities involve people that are unfamiliar with them. The systems that are in place for the introduction of such projects must ensure that the people involved are provided the best chances for success in their chosen development activity. The people should therefore be provided the necessary support, information, and knowledge about what they are supposed to do as part of

the development project. It is also important that the people are forewarned of the things they should and should not do if they want to succeed.

Unfortunately, it is not common for people to talk openly about project failures (Axinn and Axinn 1997:154), because those who planned past projects might be reluctant to know why they failed, as this would identify the inadequacies of the original plans. In other cases, these officials have attained senior positions in government and will not want to be reminded of their earlier mistakes. Consequently, they and others repeat the same development mistakes time and again (Axinn and Axinn 1997:88).

Rural development activities that have been undertaken in Fiji have had inherent problems because the people have been ill prepared (Burns 1963:156; Belshaw 1964:122; Plange 1996:239). People were not familiar with the requirements of the development activities and what was expected of them. Furthermore, they needed to be trained in the appropriate new skills so that they could be as competent in these development activities as they have been with the traditional ones.

This concluding chapter examines the solutions suggested to address the common problems hindering rural development. The project cycle is put forward as a suitable alternative to replace existing project design methods that are characterised by top-down and externally driven development approaches. The project cycle approach encourages participatory and bottom-up rural development planning that involves people in the formulation, implementation and monitoring and evaluation of rural development projects.

## **9.2 Solutions to the problems of rural development**

Addressing the problems identified in Chapter 8 requires a new approach to rural development, one that will overhaul the whole process and the way projects are formulated. The top-down and externally driven approach that is imposed on people and assumes they are ready to undertake rural development activities has not worked. The problems of rural development activities are related to two sets of factors. First is the people's lack of understanding of the requirements of the development activities in which they are involved. For example, people need to understand the objectives of the project and the reasons why they have to produce regularly, properly treat their produce and meet the requirements of the development

activities. Second is the lack of appreciation by policymakers and development agencies of the influence and significance of the local sociocultural conditions in the areas in which they work. The policymakers and development agencies must appreciate the lifestyles in villages, people's value systems and their needs, including a minimum level of infrastructure and institutional support.

The involvement of people in different parts of the country in development projects should be based on cost effectiveness and other objective criteria. Cost benefit analysis and evaluation should be conducted by government departments to determine the locations where the development projects are likely to succeed given the costs of transport and other related factors. This determination should be based on objective sociocultural, ecological as well as economic criteria. This is why proposals need to be assessed on a case-by-case basis. The local situation should determine the type of rural development activities in which the people in various areas are involved. This approach will minimise the implementation of development projects that are doomed from the start because of reasons that could be avoided.

Community programmes must involve local people in the development of policy, action plans and programme strategies that empower them to work collectively towards a sustainable society and engender ownership of the local programmes (Keen 1994:55). This requires that much of the control and accountability for the development activity be taken from central authorities and given to community organisations. However, there are inherent difficulties because what the people have been asked to do is new to them. Therefore, successful participation requires a two way process; with the understanding of local needs, building on the strengths of existing institutions, and defining changes that are needed to support community action (Narayan 1995:1). Community-based development requires new institutions, which promote the:

- adoption of goals and processes which strengthen the capacity of a community to organise and sustain development and its benefits
- reorientation of bureaucracies to support community empowerment and investment in social capital through user participation in decision-making



- achievement of a match between what people in a community want and are willing to pay for and manage, and what development agencies supply

(Narayan 1995:5).

Participation is critical to allow the identification of local priorities so that the development better reflects people's needs and wishes, mobilises local support for development and minimises the cost of public services by shifting the responsibility to local people and organisations. There is evidence that community development programmes actually cost less and are more successful to implement if the institutional framework is right.

Successful community-based development is dependent on a number of factors such as the:

- use of appropriate strategies for encouraging participation
- existence of viable community groups
- appropriate fit of technology to the project and community needs
- effective agency outreach strategies, client responsive agencies, and enabling policies

(Govan 1997:196-7; Siwatibau 1997:42).

Development project plans need to incorporate these factors because no amount of planning, political will or funding will succeed if the plans are not based on realistic assumptions. For instance, any development plan that does not include a training and capacity building component assumes that people are already familiar with how business ventures operate.

Experiences in villages however have shown this to be wrong. In many of the villages, people are only involved part-time in development activities. To base calculations on the fact that people put in full-time effort will be inappropriate in such cases. The infrastructure and institutional systems need to allow the development activities to be accessed by all those who intend to be involved. However, because different services are available in different areas, it will be pointless to introduce development projects for the country as one homogenous unit.

Rural development needs a carefully coordinated and integrated plan. The government line ministries, for instance, should be responsible for all rural development policies and plans, keeping in mind the importance of exerting effective control for the purpose of preventing resource depletion. But

government departments should also work closely with other government ministries, local groups, NGOs and international development agencies in identifying, formulating, implementing and monitoring and evaluating rural development initiatives. This will ensure that a holistic approach is adopted where all the interested parties are involved and that the rural development objectives are consistently pursued at all levels. For instance, government needs to provide the social and economic environment in which the private sector can flourish and develop. Therefore, government's intervention only should be to facilitate development in areas where the private sector cannot invest (Nichols and Moore 1985:i).

The pursuit of these rural development policies requires an integrated approach utilising quality databases and information for good decision making. Government has to improve the capacity for data collection and analysis. The emphasis on development projects should be on maximising production, income and sustainable rural development. At the same time, the development activities should be beneficial and rewarding to those involved.

The people involved in rural development projects should not only be provided with comprehensive training but should also be offered follow-up activities. This is why it is critical that government provides training and extension services to all communities intending to be involved in a development activity. The participants at these training sessions should be selected properly using objective selection criteria. The trainees need to understand the nature of the project and how they fit into the picture. For example, the trainees need to know their targeted production levels given their commitment and their contribution in terms of time, skill and capital.

A new, more flexible system of rural development funding is needed to avoid the introduction of unilateral projects and to reduce the emphasis on funding periods. The new system should provide practical support and encourage people in rural areas to take advantage of emerging opportunities in areas identified by government. The new system also must empower people to look after their own affairs instead of being totally dependent on State initiatives. I concur with Kasper *et al.* (1988:132) that this can be achieved and that the results would be more fulfilling and rewarding to all the people. In addition, the funding agencies must have the

capacity to conduct the technical, managerial and financial assessment of proposed commercial fishing ventures.

### **9.3 Adopting the project cycle approach**

The project cycle approach represents an attempt to involve the people in the identification, formulation, implementation and the monitoring and evaluation of the projects. It is also a response to the realisation that development problems in the Pacific cannot be understood only in terms of economic issues. It is now recognised that it is just as important to put the projects in the context of historical and sociocultural traditions. The project cycle, if used properly, can ensure that development projects are relevant, appropriate and pragmatic.

The project cycle approach covers project identification, project formulation, project implementation, project monitoring and project evaluation (Australian International Development Assistance Bureau (AIDAB) 1988; Overseas Development Assistance (ODA) 1995; Hinds 1998). It also emphasises need identification, feedback and review mechanisms that have not been well addressed in past rural development project planning. The cycle begins when an idea for a project is developed and ends when the project is completed and the outcomes have been evaluated. The concept of the cycle is significant because the results of the final evaluation are incorporated into the design of later development projects. This is an improvement on traditional project design, where that linkage has not been used. As a result, earlier project experiences have not been scrutinised and used as the basis for planning better development projects. In contrast, the project cycle uses the iterative learning processes that quality development work entails (AIDAB 1988; ODA 1995; Hinds 1998).

The project cycle follows a process. It is not restricted by the parameters of a pre-existing blueprint or model. The important thing is that the design may be altered during implementation as a consequence of the monitoring. This approach would enhance the incorporation of local sociocultural, ecological and economic conditions. The benefit of the process is that while the outcome cannot be fully known in advance, the interim progress can be monitored and evaluated. Such monitoring will assist in steering the project towards the desired outcomes. This differs from the assumptions made with blueprint projects such as those currently undertaken where the planned

outcomes are self-fulfilling. Unfortunately, the intended outcomes are rarely achieved, resulting in failures, which cannot be addressed because there is no allowance for such alteration.

### **9.3.1 Project identification**

Project identification takes place in different ways. While bilateral and multilateral agencies normally work with local governments, the NGOs often work with local groups to identify the problems that need to be addressed. Hence, there is some difference in the extent to which local people participate in identifying the need for a project. Whether or not the local governments, aid agencies or NGOs are involved in determining people's input into project identification, it is important that people, particularly those directly affected by the development activities, are involved as widely as possible in the process. Moreover, there must be recognition and use made of the linkages and feedback mechanisms that are available.

Rural development projects should be designed to improve the lives of the beneficiaries, who should be consulted in identifying the projects (Dioh 1998:449). Local people need to be genuinely involved in such collaborative work, and this requires more planning time. The planning time taken may not be appreciated at the beginning, but the value of this will be acknowledged when the project is implemented. This approach should ensure that project identification addresses the needs and problems affecting the people in the community in a manner that reflects the actual conditions. Project identification should set realistic goals and objectives and identify the sources of risks and ways of addressing these.

### **9.3.2 Project formulation**

At the formulation stage, the idea from the identification stage is made into a coherent proposal. The formulation stage can be divided into the design, appraisal and approval phases. Project design involves specifying the project objectives, activities, inputs (resources) and outputs (expected results). It is important that different options are considered and that allowance is made to maximise social benefits. The different options should be assessed and appraised, keeping in mind the socioeconomic conditions in the local areas. Subsidiary planning activities such as feasibility studies, outlines and detailed studies may be required during this phase. These

planning activities may delay the planning process but will ensure that whatever project is formulated is tailor-made for the area and is appropriate to address the required need.

The appraisal phase is when the funding agency decides on whether the project is suitable for funding. Appraisal allows for the re-examination of the project plan to assess the appropriateness and financial viability of the proposal before funds are committed (AIDAB 1988). Recommendations and changes proposed at this stage are mostly to fine tune aspects of the design and to define the necessary arrangements for monitoring project performance and achieving the objectives of the project. In the approval phase, the authorities need to check all the information provided during the appraisal stage by all the technical specialists (AIDAB 1988; ODA 1995; Hinds 1998)

Project formulation must involve the stakeholders of both the donor and recipient countries at all stages. There must be continuous interaction (Maiava 1998:465) to empower the people to contribute to the decision-making process that involves all the stages of the development initiatives and not merely adding a participatory element to outside formulated projects. However, the project should be formulated in a manner that makes the recipients not overly dependent on funding agencies. Public hearings and consultation with the project beneficiaries should be part of the formulation phase. In addition, an education campaign should be undertaken to cover all of the project phases. This exercise should be transparent to demystify the project, disseminate information about it, promote public awareness and consolidate support. After all, 'Central planners, cut off from local conditions, confined with their computers, uncritical of bad data and ignorant of how people live, are prone to construct for themselves and their colleagues costly worlds of fantasy, prophesying doom and prescribing massive programmes which are neither needed nor feasible' (Chambers 1997:23).

Project formulation should also include the definition of appropriate, objective and verifiable performance indicators that will be used to assess project performance. This allows for consistency and focus with respect to what is targeted and what is to be measured to illustrate the project's accomplishment. Some of the performance indicators that may be used

include the achievement of the objectives, repayment of loans, and the sustainability of the project's activities.

### **9.3.3 Project implementation**

Project implementation needs a management structure that is simple and flexible. Arrangements must be put in place to facilitate bottom-up decision-making. In addition, the disbursement of funds must be quick to alleviate unnecessary delays. The project needs to have an onsite office to assist in the communication and the coordination of activities with the local people. It is also important to use whatever existing administrative and institutional arrangements in place. People need to be guided and encouraged to undertake rural development work. The presence of project officials should boost the interest amongst the people and allow for regular follow-up activities.

Projects may be short or long-term depending on the needs to be addressed. Ongoing monitoring should be concluded during the implementation stage to provide information and indicators on the impact of the project on its participants and beneficiaries.

### **9.3.4 Project monitoring and evaluation**

Monitoring and evaluation should be done independently and undertaken to identify the necessary action to improve or correct problem areas identified during implementation (Saul 1998:478). Consequently, monitoring and evaluation should be conducted in an explicit manner that states what is being measured and the reasons for these measurements. Sociocultural as well as economic criteria should be used to ensure that all aspects of the project are covered. The monitoring should:

- measure the progress of the project's activities
- identify and assess the factors affecting the progress of the project
- assess the prospects of the project achieving its immediate objectives
- identify the actions necessary, and the deadlines under which they should be carried out for improving or correcting implementation problems
- agree on the participants who will be responsible for carrying out the necessary actions.

The monitoring process should therefore show the areas that need to be improved upon.

Project evaluation takes place when each phase is completed and when the project ends. The positive and negative impacts of the project are seen during an evaluation and are used to determine any changes to the project. Evaluation identifies causative factors and verifies whether the project has been properly conceived and designed to attain its objectives as effectively and efficiently as possible. The evaluation may be iterative and takes place several times, depending on the project's time frame, size, importance, performance, and changing conditions. The framework for a comprehensive evaluation is already developed and emphasises the overall context of stakeholder involvement, criteria and process, reporting requirements, and coordination effort.

Major elements of an evaluation include

- a re-examination of the design of the project
- an assessment of the progress achieved in relation to established targets for activities, outputs and immediate objectives
- an assessment of the substantive elements of the project's results, as well as its timeliness
- an identification of factors that facilitated or impeded the achievements of the project's objectives
- a prescription of specific recommendations concerning measures overcoming factors adversely affecting the project's effectiveness, the future of the project, or a possible successor to it

(Saul 1998:478).

The monitoring and evaluation stages described here have rarely been carried out or not carried out properly in past development projects. This is why the same development mistakes have been repeated. Iterative learning has been impossible, given that the monitoring and evaluation have not been properly conducted.

#### **9.4 Implementing rural development projects**

Based on the problems in Fiji and other Pacific Islands discussed above, I suggest that the project cycle approach be adopted in the introduction of development projects. I also suggest that, in the case of Fiji and other Pacific Islands, an independent and effective Rural Development Authority (RDA) be set up to supervise the institution of the project cycle approach and the introduction of rural development projects. The major tasks of the RDA should be to:

- amass all the knowledge and information that can be found regarding the natural and human resources involved in the proposed development initiatives
- analyse this data in terms of development activities and policies and analyse the appropriateness and efficiency of the economic activities presently pursued as development activities, as well as proposed ones that might be introduced
- exercise an entrepreneurial function by discovering new opportunities for profitable private investment, and where necessary, take steps to bring together the management, capital and labour needed to launch new enterprises
- explain alternative possibilities to the target population to help them make rational decisions

(Higgins 1989:190).

The RDA should ensure that the necessary checks are conducted on all development project proposals. The RDA should also provide the institutional support for the people involved in their chosen development activities and at the same time promote the involvement of the private sector. The economic growth engineered by the RDA should create employment, increase local management capacity and contribute to economic growth involving local people.

The RDA should carry out studies on the type of activities that can be economically carried out in different parts of the country given the different existing socioeconomic conditions. This should replace development projects that are formulated for universal application. The authority would screen applications for development activities and recommend support for deserving cases. Financial assistance would be made available to people who are proposing activities that are in line with the RDA's published guidelines. The RDA should promote the idea of development projects through awareness and training. This system should replace the current trend of randomly adopting one project after another.

The RDA should also train people in the requirements of specific projects. The training should reflect the people's identified needs. To achieve this, it would be necessary to assess the needs of the trainees and to determine the content of the training programmes. The proposed authority should also



vet the suitability of the clients, keep a database on all organisations involved in the projects and hold workshop and training sessions on relevant issues and at relevant sites. The RDA should ensure that the people make the final decision on their involvement in a development project only after all of the important factors have been taken into account.

People should be able to decide on the type of development activities they want. Rural development should distinguish between social welfare activities and commercial operations, keeping in mind what people do and their socioeconomic and sociocultural situations. People should submit written proposals (using a format prepared by the RDA) to the RDA, which would be responsible for all rural development projects. The RDA should then assess and check the proposals to ensure that the figures are realistic and reliable and that they suit the RDA's own requirements for projects to be supported in different areas. In assessing the proposals, the RDA should check on the viability and credibility of the project activities as well as the people's level of preparedness. Once approval has been granted, comprehensive training should be offered to the people in all relevant aspects of the development activities. Realistic forecasts of production levels, prices and the requirements of pre and postharvest care should be carefully explained to intending participants. Each proposal should also specify whether the project is to be targeted for individuals, families or communities keeping in mind that individuals with the drive should be recognised and encouraged. The methodology used to assess the case studies (see Chapter 4) could be used as the basis for such evaluations.

The RDA should also conduct thorough checks on the economic factors that affect the performance of development projects. Only the proposals that are economically viable and beneficial to the people involved should be supported for development. People can be convincing in their arguments and proposals but careful assessments should be conducted to determine the people's state of preparedness and the potential viability of the project ventures. The assessments should require closer scrutiny rather than the hurriedly arranged reconnaissance that featured in the past. RDA officials would need to visit the proposed sites to conduct their appraisals. It is also important that women are involved in these assessments. Women are an important part of the production units in rural areas and must be involved in decision making and training.

The RDA should also ensure that the institutional arrangements are in place. The RDA, for instance, should emphasise monitoring and evaluation. People involved in development projects in the past were concerned that preproject, interim and postproject evaluations were not conducted. Records were also badly maintained and deprived people of the lessons they needed to learn from previous development projects. The RDA should keep a database on development projects and the people involved in them.

Research should be strengthened and made an important area of rural development work. The reliance on estimations based on surveys conducted in the 1970s and 1980s is no longer acceptable. Research capacity should be strengthened at all levels. People at the community level should be involved in the research so they can make more informed decisions on the use of their resources and contribute to the evaluation process.

In light of these proposed changes to the way rural development projects are introduced, the current funding period should be revised. Funding agencies should be asked to deposit development funds into a trust fund, to be operated by the RDA, like a development bank, where people who deserve to be assisted are provided with funding support. Thus, instead of making project funds available for only a defined period of time, the funding agencies provide the funds whenever appropriate people who are prepared to be involved in a project seek them. The people who seek assistance should be thoroughly assessed, which is often not possible in the present system. Indeed, the concept of the funding period gives the impression that the funds are available for only a limited time and that people should be involved during that time. In many instances, people rush to be involved in the project activities because of the perception that the support and funds will disappear after a stipulated time. During this funding period, people of all types are involved in development activities that some find later to be unfavourable. In addition, the assessment and evaluation systems are overwhelmed with the requests for involvement as people go from one project to another. Furthermore, funding support should be made available only to people who have been adequately trained or have had experience in the rural development activity of their choice.

The RDA should manage the trust fund in consultation with donor communities. This new system would alleviate the rush associated with

development funding periods and will allow the better assessment of project proposals. Such changes would enhance the success of the development activity, as they will eliminate the feeling amongst people that they can freely gain from development projects. Development projects should be depicted as challenges that people are committed to undertaking in order to improve their livelihood. The private sector and self-funded initiatives should be nurtured to take up activities that are currently inefficiently undertaken by donor-funded initiatives.

The costs associated with establishing and running an agency such as the proposed RDA needs to be considered in the context of the present situation. Currently, the greater majority of development projects fail. The funds channelled into these failed projects are essentially written off. Furthermore, the opportunity costs of these wasted funds are ignored. In many of the Pacific Islands, these development funds represent a significant element of both the national and the local economies. An authority such as the proposed RDA would prevent many nonviable projects from being implemented and significantly contribute to facilitating viable projects. The on going benefits of these viable projects would make long-term contributions to the local communities and national goals, both in social welfare and economic terms. Such continuing benefits would far outweigh the significant economic and opportunity costs incurred through the many failed projects, which are symptomatic of past and present development approaches.

## **9.5 Conclusion**

The failures of rural development projects are largely the result of inappropriate development approaches and misguided strategies. The development approaches used up to now often do not align with the situation in rural villages where the people live. Moreover, the people are unfamiliar with the requirements of these development activities and often are faced with problems that compromise their performance. To improve the performance of development projects, a new project formulating and implementing method is required so that the development projects fit into the socioeconomic context. This is where the project cycle, RDA and the new funding arrangement suggested here provide reasonable alternatives to enable the attainment of the intended outcome of development programmes. People cannot be forced into something they are not

committed to and therefore should be carefully introduced to these development activities using the new procedures.

The suggestion for the project cycle approach, RDA and new funding arrangements should alleviate many of the problems that characterise the implementation of externally driven and top-down rural development projects. Instead the suggestions should enhance appropriate and sustainable rural development that involve the people and ensure that the best conditions for success are provided. The new approach should ensure that the local communities are involved in the development activities they chose. The end result should be a marked improvement in the performance of rural development projects in Fiji and the other Pacific Islands.

## Bibliography

- Adams, W.H., 1990. *Green Development: environment and sustainability in the Third World*, Routledge, London.
- , 1995. *Green Development: environment and sustainability in the Third World*, Routledge, London.
- and D.H. Thomas, 1993. 'Mainstream sustainable development: the challenge of putting theory into practice', *Journal of International Development*, 5(6):591–604.
- Adams, T. and R. Foscarini, 1990. Proceedings of the regional workshop on seaweed culture and marketing. South Pacific Aquaculture Development Project/ Food and Agriculture Organisation of the United Nations, GCP/RAS/116 JPN, Suva (unpublished).
- ADB (Office of Pacific Operations), 1996. 'Strategy for the Pacific: policies and programs for sustainable growth', [http://www.adb.org/work\\_strategy/strategy-Pacific/default.asp](http://www.adb.org/work_strategy/strategy-Pacific/default.asp).
- Ahmed, I.I. with M. Lipton, 1997. *Impact of Structural Adjustment on Sustainable Rural Livelihoods: a review of the literature*, Working Paper 62, Institute of Development Studies, University of Sussex, Sussex.
- Alexander, P., 1989. 'Lessons for the Pacific technology transfer and fishing communities: the Sri Lankan experience', in A.D. Couper (ed.), *Development and Social Change in the Pacific Islands*, Routledge, London:63–73.
- Allen, B.J., 1983. 'Paradise lost? Rural development in an export-led economy: the case of Papua New Guinea', in D.A.M Lea and D.P. Chaudhri (eds), *Contradictions and Dilemmas in Developing Countries: rural development and the state*, Methuen, London:215–40.
- Archer, W., 1992. Coping with the disappointing rates of return on development projects that affect the environment, *Policy Research Working Paper Series 965*, World Development Report.
- Arndt, H.W., 1987. *Economic Development: the history of an idea*, University of Chicago Press, Chicago.
- , 1993. *Fifty Years of Development Studies: history of development studies 4*, National Centre for Development Studies, Canberra.
- Australian Agency for International Development (AusAID), 1995. The economy of Fiji: supporting private investment, *International Development Issues* No. 40, Canberra.
- , 1997. *The South Pacific: an overview*, AusAID, Canberra.
- Australian International Development Assistance Bureau (AIDAB), 1988. *Country Programs: operation guide*, vol. II, AIDAB, Canberra.
- Australian Department of Finance, 1994. *Doing Evaluations: a practical guide*, Australian Department of Finance, Canberra.

- Axinn, G.H. and N.W. Axinn, 1997. *Collaboration in International Rural Development: a practitioner's handbook*, Sage Publications, New Delhi.
- Baines, G.B.K., 1989. *Traditional resource management in the Melanesian South Pacific: a development dilemma*, South Pacific Regional Environment Programme (SPREP) Occasional Papers No.8, South Pacific Commission, Noumea.
- Bamberger, M., 1991. 'The importance of community participation', *Public Administration and Development*, 11:281-84.
- Bantongbacal, J., L. Kruger, S. Leslie and L. Mazaudier, 1998. 'Workshop on Canadian International Development Agency (CIDA)'s regional ocean initiatives: CIDA Graduate Trainee Report', *Marine Policy* 22 (6):527-36.
- Barbier, E., 1987. 'The concept of sustainable economic development', *Environment and Conservation*, 14 (2):101-9.
- Batibasaga, K., J. Overton and P. Horsley, 1999. 'Vanua: Land, People and Culture in Fiji', in J. Overton and R. Scheyvens (eds), *Strategies for Sustainable Development: experiences from the Pacific*, UNSW Press, Sydney:100-8.
- Bayliss-Smith, T., 1997. 'From taro garden to golf-course? Alternative futures for Pacific Islands agriculture', in B. Burt and C. Clerk (eds), *Environment and Development in the Pacific Islands*, National Centre for Development Studies, The Australian National University and the University of Papua New Guinea Press, Canberra:143-70.
- and P. Haynes, 1988. 'Land settlement as a rural development strategy', in J. Overton, with assistance from B. Banks (eds), *Rural Fiji*, Institute of Pacific Studies, Suva:123-46.
- Bedford, R., 1988. 'Capitalism and colonialism in the periphery' in Bayliss-Smith, T., R. Bedford, H. Brookfield, M. Latham with contributions from M. Brookfield, *Islands, Islanders and the World the colonial and post-colonial experience of eastern Fiji*, Cambridge University Press, Sydney:44-74.
- Beeching, A.J., 1993. A description of temporal and spatial fishing patterns in Suva, Fiji, MSc Dissertation, University of Newcastle upon Tyne, Newcastle.
- Beilin, R., 1996. 'Participatory Rural Appraisal: an inclusive methodology for community and environment planning', in H. Wallace (ed.), *Developing Alternatives: community development strategies and environmental issues in the Pacific*, Victoria University of Technology, Melbourne:67-83.
- Bell, F.W., 1978. *Food from the Sea: the economics and politics of ocean fisheries*, Westview Press, Colorado.
- Beller, W., 1990. 'How to sustain a small island', in W. Beller, P. d'Ayala and P. Hein (eds), *Sustainable Development and Environmental Management of Small Islands*, United Nations Educational, Scientific and Cultural Organisation (UNESCO) and Parthenon Publishing Group, Paris:15-22.
- , P. d'Ayala and P. Hein, 1990. 'Observation and recommendations of the interoceanic workshop, Puerto Rico, 1986', in W. Beller, P. d'Ayala and P. Hein (eds), *Sustainable Development and Environmental Management of Small Islands*, UNESCO and Parthenon Publishing Group, Paris:365-96.

- Belshaw, C.S., 1964. *Under the Ivi Tree: society and economic growth in rural Fiji*, University of California Press, Los Angeles.
- Bertram, G. and R.F. Watters, 1985. 'The MIRAB economy in South Pacific microstates', *Pacific Viewpoint*, 26 (3):497-520.
- Bidesi, R.V., 1994. 'How "the other half" fishes: accounting for women in fisheries in the Pacific', in A. Emberson-Bain (ed.), *Sustainable Development or Malignant Growth: perspectives of Pacific Island women*, Marama Publications, Suva:123-30.
- Birkeland, J., S. Dodds and C. Hamilton, 1997. 'Values and ethics', in M. Diesendorf and C. Hamilton (eds), *Human Ecology, Human Economy: ideas for an ecologically sustainable future*, Allen and Unwin, New South Wales:125-47.
- Black, J.K., 1991. *Development in Theory and Practice: bridging the gap*, Westview Press, Boulder, Colorado.
- Blaikie, P., 1996. New knowledge and rural development: a review of views and practicalities, Paper for the 28th International Geographical Congress, Hague (unpublished).
- , 1998. 'Paradigms for environment and development', in L. de Haan and P. Blaikie (eds), *Looking at Maps in the Dark: directions for geographical research in land management and sustainable development in rural and urban environments of the Third World*, Nederlandse Geografische Studies 240, Arnhem:9-40.
- Blake, B., 1998. 'A strategy for cooperation in sustainable ocean management and development, Commonwealth Caribbean', *Marine Policy*, 22 (6):505-14.
- Bornstein, D., 1996. *The Price of a Dream*, Simon and Schuster, USA.
- Boyden, S., 1994. 'Achieving harmony between nature and society', in M. Keen (ed.), *Communities, Education and Sustainability: perspectives from Thailand and Australia*, Centre for Resource and Environmental Studies (CRES), Australian National University, Canberra:3-8.
- and S. Dovers, 1997. 'Humans in the biosphere', in M. Diesendorf and C. Hamilton (eds), *Human Ecology, Human Economy: ideas for an ecologically sustainable future*, Allen and Unwin, New South Wales:3-34.
- Brandt, A., 1984. *Fish Catching Methods of the World*, Fishing News Books Ltd, Surrey, England.
- Brohman, J., 1996. *Popular Development: rethinking the theory and practice of development*, Blackwell Publishers, Oxford.
- Brokensha, D. and B.W. Riley, 1991. 'International policies may damage global resources', in M. Polesetsky (ed.), *Global Resources - opposing viewpoints*, Greenhaven Press, San Diego:241-6.
- Brookfield, H.C., 1972. *Colonialism, Development and Independence: the case of the Melanesian islands in the South Pacific*, Cambridge University Press, Cambridge.
- , 1973. 'Introduction: explaining or understanding? The study of adaptation and change', in H.C. Brookfield (ed.), *The Pacific in Transition: geographical perspective on adaptation and change*, Edward Arnold, London:3-24.

- , 1975. *Interdependent Development*, Methuen and Co., London.
- , 1990. 'An approach to islands', in W. Beller, P. d'Yala and P. Hein (eds), *Sustainable Development and Environmental Management of Small Islands*, UNESCO and Parthenon Publishing Group, Paris:23–34.
- , 1991. 'Environmental stability with development: what proposals for a research agenda', in O. Stokke (ed.), *Sustainable Development*, Frank Cass in association with EADI, London:39–61.
- , 1992. 'The numbers crunch: is it possible to measure the "carrying capacity" of our planet', *UNESCO Courier*, 1(92):25–9.
- , R. MacLean, T. Bayliss-Smith, M. Brookfield and J. Campbell, 1977. 'The hurricane hazard: natural disaster and small populations', *UNESCO/United Nations Fund for Population Activities (UNFPA) Fiji Islands Report Man and the Biosphere Programme Project 7*.
- , B. Denis, R.D. Bedford, P.S. Nankivell and J.B. Hardaker, 1978. 'Taveuni: land, population and production', *UNESCO/UNFPA Fiji Islands Report Man and the Biosphere Programme Project 7*.
- , M. Latham, M. Brookfield, B. Salvat, R.F. MacLean, R.D. Bedford, P.J. Hughes and G.S. Hope, 1979. 'Lakeba: environmental change, population dynamics and resource use', *UNESCO/UNFPA Fiji Islands Report Man and the Biosphere Programme Project 7*.
- Buchanan, K., 1977. 'Alternative modes of development', in R. Peet (ed.), *Radical Geography: alternative viewpoints on contemporary social issues*, Maaroufa Press, Chicago:363–77.
- Burd, A.C., 1974. 'The northeast Atlantic herring and the failure of an industry', in F.R. Harden-Jones (ed.), *Sea Fisheries Research*, Paul Elek, London:167–92.
- Burns, A., 1963. *Fiji*, Her Majesty's Stationery Office, London.
- Burrows, B.C., A.J. Mayne and P. Newbury, 1991. *Into the Twenty-First Century: a handbook for a sustainable future*, Adamantine Press, England.
- Caldwell, J. and A. Hill, 1988. 'Introduction: recent developments using micro-approaches to demographic research', in J. Caldwell, A. Hill and V. Hull (eds), *Micro-Approaches to Demographic Research*, Kegan Paul International, London:1–9.
- Calvert, S. and P. Calvert, 1996. *Politics and Society in the Third World: an introduction*, Prentice Hall/Harvester Wheatsleaf, London.
- Capell, A., 1991. *A New Fijian Dictionary*, Government Printery of Fiji, Suva.
- Capistrano, D. and J. Stackhouse, 1997. 'Bangladesh's troubled waters finding a better way to manage a precious resource', in *Ford Foundation Report*, (Winter):30–3.
- Carew-Reid, J., 1989. *Environment, Aid and Regionalism in the South Pacific*, Pacific Research Monograph No. 22, National Centre for Development Studies, Australian National University, Canberra.



- Carleton, C., 1983. Guidelines for establishment and management of collection, handling, processing and marketing facilities for the artisanal fisheries sector in the South Pacific Commission Area, South Pacific Commission/Fisheries 15/WP.6, Noumea (unpublished).
- Carr, A., 1994. Grassroots and green tape: community-based environmental management in Australia, Ph.D Thesis, Australian National University, Canberra.
- Cavuilati, S.T., 1980. Report of tour of Bua Province, Vanua Levu with the Minister for Agriculture and Fisheries, Suva (unpublished).
- , 1982. Artisanal fisheries development: needs and constraints, Third FAO Meeting, Fisheries Division, Lami (unpublished).
- Chakravarty, S., 1991. 'Sustainable development', in O. Stokke (ed.), *Sustainable Development*, Frank Cass in association with EADI, London:62–72.
- Chamarik, S., 1994. 'Are education and economic development barriers to human development', in M. Keen (ed.), *Communities, Education and Sustainability: perspectives from Thailand and Australia*, CRES, Australian National University, Canberra:47–52.
- Chambers, R., 1983. *Rural Development. putting the last first*, Longman, London.
- , 1985. *Managing Rural Development Ideas and Experience from East Africa*, Kumarian Press, Uppsala.
- , 1997. *Whose Reality Counts: putting the first last*, Intermediate Technology Publications, London.
- Chand, S., 1998. 'Fiji: its potential as the service hub of the Pacific', in R. Chandra and K. Mason (eds), *An Atlas of Fiji*, Department of Geography, University of the South Pacific, Suva.
- Chandler, W.U., 1990. 'Development and environmental change', *Economic Impact* 2 (71):18–25.
- Chandra, R., 1985. Industrialisation in Fiji, Ph.D Thesis, University of British Columbia, Vancouver.
- , 1992. 'Breaking out of the import-substitution industrialisation: the case of Fiji', in D.G. Lockhart, D. Drakakis-Smith and J. Schembri (eds), *The Development Process in Small Island States*, Routledge, London:205–27.
- , 1998. 'The distribution of population and its density: total population', in R. Chandra and K. Mason (eds), *An Atlas of Fiji*, Department of Geography, University of the South Pacific, Suva:32–8.
- and N.K. Chetty, 1998. 'Emigration', in R. Chandra and K. Mason (eds), *An Atlas of Fiji*, Department of Geography, University of the South Pacific, Suva:70–4.
- and H.M. Gunasekera, undated. The framework of development policy in Fiji, University of the South Pacific, Suva (unpublished).
- Charles, A.T., 1994. 'Towards sustainability: the fisheries experience', *Ecological Economics*, 11:201–11.

- Checkland, P., 1981. *Systems Thinking, Systems Practice*, John Wiley & Sons, New York.
- Chesher, R., 1995. 'The giant clams sanctuaries of the Kingdom of Tonga', *Marine Studies Technical Report 1995/2*, University of the South Pacific, Suva.
- Christy, F.T., 1977. *Transitions in the Management and Distribution of International Fisheries*, University of Wisconsin Press, Wisconsin.
- Christy, F.T., Jr., 1986. 'Special characteristics and problems of small-scale fisheries management in developing countries', in R. Miles, R. Pealy and R. Stokes (eds), *Natural Resource Economics and Policy Application*, Essays in Honour of James A. Crutchfield, Institute of Marine Studies, The Graduate School of Public Affairs, and the Institute of Public Policy and Management of the University of Washington, Seattle:118-51.
- Chung, M., 1988. 'The impact of a road', in J. Overton with assistance from B. Banks (eds), *Rural Fiji*, Institute of Pacific Studies, Suva:97-122.
- , 1994. 'Taking a positive tack on human resources: Managing resources in the South Pacific', *Development Bulletin*, 31:5-7.
- , 1996. 'Should the economy do better than the people? Or investing in people', in R. Grynberg (ed.), *Economic Prospects for the Pacific Islands in the 21st Century*, 1995 Ray Parkinson Memorial Lectures, University of the South Pacific, Suva, Fiji:114-19.
- Cicin-Sain, B., 1993. 'Sustainable development and integrated coastal management', *Ocean and Coastal Management*, 21(1-3):11-43.
- Clark, C.W., 1973. 'The economics of overexploitation', *Science*, 3:630-34.
- Clarke, W.C., 1968. *The Ndowimba Basin, Bismarck Mountains, New Guinea: place and people*, Ph.D. Thesis, University of California, Berkeley.
- , 1971. *Place and People: an ecology of a New Guinea community*, University of California Press, Berkeley.
- , 1973. 'The dilemma of development', in H.C. Brookfield (ed.), *The Pacific in Transition: geographical perspective on adaptation and change*, Edward Arnold, London:275-98.
- , 1977. 'The structure of permanence: the relevance of self-subsistence communities for world ecosystem management', in T. Bayliss-Smith and R. Feachem (eds), *Subsistence and Survival: Rural ecology in the Pacific*, Academic Press, New York:363-84.
- , 1990. 'Learning from the past: traditional knowledge and sustainable development', *The Contemporary Pacific*, 2:233-53.
- , 1993. 'Learning from Ngirapo: indigenous knowledge and sustainable agricultural development', in E. Waddell and P.D. Nunn (eds), *The Margin Fades: geographical itineraries in a world of islands*, Institute of Pacific Studies, Suva:231-66.
- Cole, R.V., 1993. 'External economic relation of Pacific Island states', in R.V. Cole and S. Tambunlertchai (eds), *The Future of Asia-Pacific Economies: Pacific Islands at the crossroads*, NCDS, ANU, Canberra:82-99.

- Coleman, E., 1997. 'Banking on the poor with a different kind of a bank, women in Southern India are changing their lives', in *The Ford Foundation Report (Winter)*, Madurai, Tamil Nadu, India:19-23.
- Commission for the Future World Commission on Environment and Development, 1990. *Our Common Future*, Oxford University Press, Oxford.
- Commonwealth Secretariat, 1984. *Ocean Management - A regional perspective: the prospects for Commonwealth Maritime Co-operation in Asia and the Pacific*, Commonwealth Secretariat, London.
- Copes, P., 1990. *Fisheries Policy and Fisheries Development in Papua New Guinea*, Discussion Paper No 44, Institute of National Affairs, Port Moresby.
- Couper, A.D., 1973. 'Islanders at sea: change and the maritime economies of the Pacific', in H.C. Brookfield (ed.), *The Pacific in Transition: geographical perspective on adaptation and change*, Edward Arnold, London:229-48.
- , 1989. 'Fishery development and social change in the Pacific', in A.D. Couper (ed.), *Development and Social Change in the Pacific Islands*, Routledge, London:22-32.
- Craven, J.P., 1982. *The Management of Pacific Marine Resources: present problems and future trends*, Westview Press, Colorado.
- Crawford, B.R., J.S. Cobb and A. Friedman, 1993. 'Building capacity for integrated coastal management in developing countries', *Ocean and Coastal Management*, 21 (1-3):311-37.
- Crocombe, R., 1976. Rural development in the Pacific Islands: past disasters and future hopes, Draft paper for the Commonwealth Conference on Rural Development, Samoa (unpublished).
- Cushing, D.H., 1979. *Fisheries Resources of the Sea and their Management*, Oxford University Press, Oxford.
- Dalzell, P., T.J.H. Adams and N.V.C. Polunin, 1996. 'Coastal fisheries in the Pacific Islands', *Oceanography and Marine Biology: an annual review*, 34: 395-531.
- David, G., 1990. Strategies of reef resources exploitation in Pacific Island, the case of Vanuatu, Proceedings ISRS Congress, Noumea.
- and E. Cillaurren, 1992. *Food Security and Village Fisheries in Vanuatu*, Institut francais de recherche scientifique pour le développement en coopération (ORSTOM), Port Vila.
- Delana, S. with T. Raman, C. Segran, R. Sale, S. Tevaga and S. Obadiah, 1988. 'Small-scale commercial fishing', in J. Overton with assistance from B. Banks (eds), *Rural Fiji*, Institute of Pacific Studies, Suva:71-84.
- Denscombe, M., 1998. *The Good Research Guide for Small-scale Social Research Projects*, Open University Press, Buckingham.
- Desai, A.V., 1976. *Vitian Economic Policy: a quest for options*, The Ray Parkinson Memorial Lectures, University of the South Pacific, Institute of Pacific Studies, Suva.

- Diesendorf, M., 1997. 'Principles of ecological sustainability', in M. Diesendorf and C. Hamilton (eds), *Human Ecology, Human Economy: ideas for an ecologically sustainable future*, Allen and Unwin, New South Wales:64-97.
- Dioh, B.C., 1998. 'Support programme for fisheries management in West Africa', *Marine Policy*, 22 (6):441-54.
- Dodds, S., 1997. 'Economic growth and human well-being', in M. Diesendorf and C. Hamilton (eds), *Human Ecology, Human Economy: ideas for an ecologically sustainable future*, Allen and Unwin:98-124.
- Dossier, 1984. 'Fisheries - the harvest of the seas: challenge and opportunities', *The Courier*, 85, May-June:60-101.
- Douglas, T., 1996. 'The one world project', in H. Wallace (ed.), *Developing Alternatives: community development strategies and environmental issues in the Pacific*, Victoria University of Technology, Melbourne:113-123.
- Doulman, A.J., 1990. 'The potential contribution of marine resources to sustainable development in Small Island Developing Countries', in W. Beller, P. d'Ayala and P. Hein (eds), *Sustainable Development and Environmental Management of Small Islands*, UNESCO and Parthenon Publishing Group, Paris:87-102.
- , 1999. 'FAO programme of fisheries assistance to Small Island Developing States', in U. Tietze and M. Izumi (eds), *Selected Papers Presented at the Workshop on Economic Strengthening of Fisheries Industries in Small Island Developing States in the South Pacific*, Apia, 14-8 September, 1998, FAO Fisheries Report No. 596, FAO, Rome:1-14.
- Durutalo, A., 1996. 'Social consequences of economic policy', in R.Grynberg (ed.), *Economic Prospects for the Pacific Islands in the 21st Century*, 1995 Ray Parkinson Memorial Lectures, University of the South Pacific, Suva, Fiji:122-43.
- Elek, A., 1993. 'The South Pacific economies in a changing international environment', in R.V. Cole and S. Tambunlertchai (eds), *The Future of Asia-Pacific Economies: Pacific Islands at the crossroads*, NCDS, ANU, Canberra:56-81.
- Emberson, T., 1999. 'Development prospects and constraints of domestic fisheries enterprises: a case study of Alatini Fisheries, Tonga', in U. Tietze and M. Izumi (eds), *Selected Papers Presented at the Workshop on Economic Strengthening of Fisheries Industries in Small Island Developing States in the South Pacific*, Apia, 14-8 September, 1998. FAO Fisheries Report No. 596, FAO, Rome:51-8.
- Emberson-Bain, A., 1994. 'Introduction: sustaining the unsustainable', in A. Emberson-Bain (ed.), *Sustainable Development or Malignant Growth: perspectives of Pacific Island women*, Marama Publications, Suva:i-xiii.
- Esteva, G., 1992. 'Development', in W. Sachs (ed.), *The Development Dictionary: a guide to knowledge as power*, Zed Books Ltd., London:6-25.
- Evening, C.S., 1983. The 'west' Hurricane Oscar Fisheries Rehabilitation Programme Report, Fisheries Division, Lautoka (unpublished).

- Faasili, U. and S. Time, 1999. 'Alia longline fishery in Samoa', in U. Tietze and M. Izumi (eds), *Selected Papers Presented at the Workshop on Economic Strengthening of Fisheries Industries in Small Island Developing States in the South Pacific*, Apia, 14–8 September, 1998. FAO Fisheries Report No. 596, FAO, Rome:47–50.
- Fairbairn, T.I.J., 1990. 'The environment and development planning in small Pacific Island countries', in W. Beller, P. d'Ayala and P. Hein (eds), *Sustainable Development and Environmental Management of Small Islands*, UNESCO and Parthenon Publishing Group, Paris:259–66.
- , 1994. 'Pacific Island economies: structure, current development and prospects', in N. Douglas and N. Douglas (eds), *Pacific Island Yearbook*, 17<sup>th</sup> edn, Fiji Times, Suva:11–24.
- Fairbairn-Dunlop, P., 1996. 'Sustainable development or going back to the Pacific Way', in R. Grynberg (ed.), *Economic Prospects for the Pacific Islands in the 21st Century*, 1995 Ray Parkinson Memorial Lectures, University of the South Pacific, Suva, Fiji:145–58.
- FAO (Food and Agriculture Organisation), 1968. *Fisheries in the Food Economy*, FAO, Rome.
- , 1986. *Seaweed Culture in the Asia-Pacific Region*, FAO, Bangkok.
- , 1995. *Code of Conduct for Responsible Fisheries*, FAO, Rome.
- , 1996. *Precautionary Approach to Capture Fisheries and Species Introduction, FAO technical guidelines for responsible fisheries 2*, FAO, Rome.
- Farrell, B.H., 1972. 'The alien and the land of Oceania', in R.G. Ward (ed.), *Man in the Pacific Islands*, Oxford University Press, London:34–73.
- Feith, H., 1974. 'Growth and development in Asia: some criticism of conventional approaches', *Pacific Viewpoint*, 15 (2):123–34.
- Fernando, N.A., 1991. *Reaching Small Borrowers in Developing Countries: problems, innovations and unresolved issues*, Working Paper No. 91/8, National Centre for Development Studies Islands/Australia, Canberra.
- Fijilive, 1999a. 'Worry over govt. \$33m', Friday, April 23, (<http://www.fijilive.com/news/>).
- , 1999b. 'Investigations on funds to go ahead, says Jacobs', Friday, April 23, (<http://www.fijilive.com/news/>).
- , 1999c. 'Cabinet approves legislation of customary rights', Thursday, April 29, (<http://www.fijilive.com/news/>).
- , 1999d. 'Fund projects on halt', Tuesday, June 22, (<http://www.fijilive.com/news/>).
- , 1999e. 'Bune spells it out', Tuesday, June 25, (<http://www.fijilive.com/news/>).
- , 1999f. 'First rural market centre', Wednesday, November 3, (<http://www.fijilive.com/news/>).
- , 1999g. 'No govt. guarantee on shop scheme', Friday, December 17, (<http://www.fijilive.com/news/>).

- , 1999h. 'How couples award shop with EIMCOL', Friday, December 17, (<http://www.fijilive.com/news/>).
- Fiji, Central Planning Office, 1970. *Fiji's Sixth Development Plan 1971–1975*, Suva.
- , 1975. *Fiji's Seventh Development Plan 1976–1980: DP 7 policies and programmes for social and economic progress*, Suva.
- , 1980. *Fiji's Eighth Development Plan 1981–1985: DP 8 policies and programmes for regional development*, Suva.
- , 1985. *Fiji's Ninth Development Plan 1986–1990: DP 9 policies, strategies and programmes for national development*, Suva.
- Fiji's Daily Post*, 1999. 'Milkfish project set to fail', October 2:2.
- Fiji, Department of Regional Development, 1996. *Annual Report for the Year Ended 1994*. Parliamentary Paper No.24 of 1996, Suva.
- Fiji Development Bank, 1982. *FDB Annual Report Year Ended June 30 1982*. Parliamentary Paper 34/82, Suva.
- Fiji, Fisheries Division, 1998a. Aquaculture, record of proceedings, the second meeting to review the progress of the various aquaculture projects under the Commodity Development Framework Programme, Fisheries Division, Suva (unpublished).
- , 1998b. *Seaweed Project Development Plan 1999–2000*, Fisheries Division, Suva (unpublished).
- , 1998c. *Seaweed Project Business Plan*, Fisheries Division, Suva (unpublished).
- Fiji Government, 1993. *The National Environment Strategy*, Suva.
- Fiji, Ministry of Agriculture and Fisheries (MAF), 1981. *Fisheries Division Annual Report*, Suva.
- , 1982. *Fisheries Division Annual Report*, Suva.
- Fiji, Ministry of Agriculture, Fisheries and Forests (MAFF), 1994. *Fisheries Division Annual Report*, Suva.
- , 1995. *Fisheries Division Annual Report*, Suva.
- , 1996a. *Fisheries Division Annual Report*, Suva.
- , 1997. *Fisheries Division Annual Report*, Suva.
- Fiji, Ministry of Agriculture, Fisheries and Forests and Alta (MAFFA), 1996. Commodity Development Framework (CDF) Year 1997-2000, 'Detail commodity annexes', MAFFA, Suva (unpublished).
- Fiji, Ministry of Fijian Affairs and Rural Development, 1980. *Ministry of Fijian Affairs and Rural Development Report for the Years 1971–1979*, Parliamentary Paper No. 47/80, Suva.
- , 1982. *Ministry of Fijian Affairs and Rural Development Annual Report for the Year 1982*, Parliamentary Paper No. 59/84, Suva.

- Fiji, Ministry of National Planning, 1997. *Development Strategy for Fiji Policies and Programmes for Sustainable Growth*, Parliamentary Paper No 58 of 1997, Suva.
- Fiji, Ministry of Primary Industries (MPI), 1985. *Annual Report Fisheries Division*, Suva.
- , 1986. *Fisheries Division Annual Report*, Suva.
- , 1987. *Fisheries Division Annual Report*, Suva.
- , 1988. *Fisheries Division Annual Report*, Suva.
- , 1989. *Fisheries Division Annual Report*, Suva.
- , 1990. *Fisheries Division Annual Report*, Suva.
- , 1991. *Fisheries Division Annual Report*, Suva.
- , 1992. *Fisheries Division Annual Report*, Suva.
- , 1993. *Fisheries Division Annual Report*, Suva.
- Fiji, Ministry of Rural Development, 1987a. *Annual Report for the Years 1983-1984*, Parliamentary Paper No. 6 of 1987, Suva.
- , 1987b. *Annual Report for the Year 1986*, Parliamentary Paper No. 20 of 1987, Suva.
- Fiji, Ministry of Rural Development and Rural Housing, 1992a. *Annual Report for the Year 1988*, Parliamentary Paper No.3 of 1992, Suva.
- , 1992b. *Annual Report for the Year 1988*, Parliamentary Paper No.3 of 1992, Suva.
- , 1992c. *Annual Report for the Year 1989*, Parliamentary Paper No.6 of 1992, Suva.
- , 1994. *Annual Report for the Year 1990*, Parliamentary Paper No.14 of 1994, Suva.
- , 1995. *Annual Report for the Year 1992*, Parliamentary Paper No.43 of 1995, Suva.
- Fiji, Parliament, 1994. 'Report of the Senate Select Committee on the desirability of setting up a rural bank to serve the rural areas of Fiji. *Parliamentary Paper No. 27/94*.
- Fiji Seaweed Industry, undated. Briefing paper, Suva (unpublished).
- Fiji Times*, 1994. Editorial Comment, November 3:6.
- , 1997. 'Floating supermarket for outer islands', NATCO Supplement, September 2.
- , 1997b. 'MP exposes flaws', editorial comment, November 25.
- Fisk, E.K., 1970. *The Political Economy of Independent Fiji*, Australian National University Press, Canberra.
- , 1981. Development and the South Pacific in the 1980s – aid in the South Pacific: too much or not enough, Department of Economics, Research School of Pacific Studies, Australian National University, Canberra (unpublished).
- , 1995. *Hardly Ever a Dull Moment*, National Centre for Development Studies, Canberra.

- and D. Honeybone, 1971. 'Belshaw's emergent Fijian enterprise after ten years', *Pacific Viewpoint*, 12 (2):123-40.
- Flavin, C. and A.B. Durning, 1991. 'Sweeping energy policies are needed to conserve global resources', in M. Polesetsky (ed.), *Global Resources Opposing Viewpoints*, Greenhaven Press, San Diego:247-53.
- Fong, G., 1994. *Case Study of Traditional Marine Management System: Sasa village, Macuata Province, Fiji*, Field Report 94/1, FFA, FAO, Rome.
- Forsyth, D., 1997. Notes on managing the environment: the economic approach, University of the South Pacific/IOI, Suva (unpublished).
- Fosberg, F.R. (ed.), 1965. *Man's Place in the Island Ecosystem: a symposium*, Bishop Museum, Honolulu.
- Foscarini, R. and J. Prakash, 1989. Profile on Seaweed (South Pacific) Limited: notes on a visit to the seaweed establishment at Savusavu, Vanua Levu, Fiji, FAO, Suva (unpublished).
- , 1990. *Handbook on Eucheuma Seaweed Cultivation in Fiji*, MPI and FAO, Suva.
- Frazer, R., 1973. 'The Fijian village and the independent farmer', in H.C. Brookfield (ed.), *The Pacific in Transition: geographical perspective on adaptation and change*, Edward Arnold, London:75-96.
- Garcia, S.M., K. Cochrane and G. Van Santen, 1997. Towards sustainable fisheries: a draft strategy of FAO and the World Bank, paper prepared for the Summit of the Seas, FAO/World Bank Workshop on Policies in support of Responsible Fisheries, Newfoundland, September 3, 1997, Rome (unpublished).
- Gentle, M.T., 1983. 'Fiji Fisheries Division's boat building and rural training scheme', *South Pacific Commission (SPC) Fisheries Newsletter* No 23, Noumea.
- Ghai, D. and J.M. Vivian (eds), 1995. *Grassroots Environmental Action people's participation in sustainable development*. Routledge, London.
- Gibson, L., 1993. 'International aid in the Pacific: what is in it for us?', in E. Waddell and P.D. Nunn (eds), *The Margin Fades: geographical itineraries in a world of islands*, Institute of Pacific Studies, Suva:141-50.
- , 1996. Aid for the environment: help or hindrance? University of the South Pacific, Suva (unpublished).
- Glaeser, B. (ed.), 1986. *Ecodevelopment Concepts, Projects, Strategies*, Pergamon Press, Berlin.
- Golson, J., 1972. 'The Pacific Islands and their prehistoric inhabitants', in R.G. Ward (ed.), *Man in the Pacific Islands*, Oxford University Press, London:5-33.
- Goodland, R., H. Daly, S.E. Serfaty and B. von Droste (eds), 1992. *Environmentally Sustainable Economic Development: building on Brundtland*, UNESCO, Paris.



- Govan, H., 1997. 'Building Upon local culture for Community Development', in B. Burt, and C. Clerk (eds), *Environment and Development in the Pacific Islands*, National Centre for Development Studies, The Australian National University and the University of Papua New Guinea Press, Canberra:185-200.
- Government of Fiji, 1974. Review of Fiji's sixth Development Plan 1971-1973, Suva (unpublished).
- , 1993. The national environment strategy, Suva (unpublished).
- Government of the Republic of Fiji, 1993. Opportunities for growth, policies and strategies for Fiji in the medium term, Parliamentary Paper No 2 of 1993, Suva (unpublished).
- , 1997. Fiji's draft Sustainable Development Bill: integrated and consolidated environmental and resource management legislation, submitted for public review, November 20, Suva (unpublished).
- , 1999. A strategic plan for the new century: policies and strategies for the sustainable development of Fiji, Suva (unpublished).
- Greenpeace, 1993. *It Can't Go On Forever. the implications of the global grab for declining fish stocks*, Greenpeace International, Amsterdam.
- Grynberg, R. and K.V. Landeghem (eds), 1995. Management issues in environmental and resource economics, Module 3, International Ocean Institute, Suva (unpublished).
- Gulland, J.A., 1977. *The Management of Marine Fisheries*, University of Washington, Seattle.
- , 1982. 'The management of tropical ,multi-species Fisheries' in D. Pauly, D and G Murphy (eds), *Theory and Management of Tropical Fisheries*, ICLARM, Commonwealth Scientific and Industrial Research Organisation, Manila:287-97.
- Hailey, J.M., 1988. 'Fijian entrepreneurs: indigenous business in Fiji', in T. Fairbairn (ed.), *Island Entrepreneurs: problems and performances in the Pacific*, East-West Center, Honolulu:35-53.
- Halapua, S., 1982. *Fishermen of Tonga – their means of survival*, Institute of Pacific Studies, Suva.
- Hamilton, C., 1997. 'Foundations of ecological economics', in M. Diesendorf and C. Hamilton (eds), *Human Ecology, Human Economy. ideas for an ecologically sustainable future*, Allen and Unwin, New South Wales:35-63.
- Hammett, M.P., 1990. 'Pacific Islands resource development and environmental management', in W. Beller, P. d'Ayala and P. Hein (eds), *Sustainable Development and Environmental Management of Small Islands*, UNESCO and Parthenon Publishing Group, Paris:227-58.
- Harden-Jones, F.R., 1974. 'Objectives and problems related to fish research into fish behaviour', in F.R. Harden-Jones (ed.), *Sea Fisheries Research*, Paul Elek, London:261-75.
- Harrison, D., 1991. *The Sociology of Modernisation and Development*, Routledge, New York.

- Hau'ofa, E., 1993. 'Our sea of islands', in E. Waddell, V. Naidu and E. Hau'ofa (eds), *A New Oceania: rediscovering our sea of islands*, School of Social and Economic Development, University of the South Pacific, Suva:2–19.
- Hayden, H., 1954. *Moturiki: a pilot project in community development*, Oxford University Press, London.
- Hein, P.L., 1990a. 'Economic problems and prospects of small islands', in W. Beller, P. d'Ayala and P. Hein (eds), *Sustainable Development and Environmental Management of Small Islands*, UNESCO and Parthenon Publishing Group, Paris:35–42.
- , 1990b. 'Between Aldabra and Nauru', in W. Beller, P. d'Ayala and P. Hein (eds), *Sustainable Development and Environmental Management of Small Islands*, UNESCO and Parthenon Publishing Group, Paris:57–76.
- Hess, A.L., 1990. 'Overview: sustainable development and environmental management of small islands', in W. Beller, P. d'Ayala and P. Hein (eds), *Sustainable Development and Environmental Management of Small Islands*, UNESCO and Parthenon Publishing Group, Paris:3–14.
- Higgins, B., 1989. *The Road Less Travelled: a development economist's quest*, National Centre for Development Studies, Research School of Pacific Studies, Australian National University, Canberra.
- Hinds, L.O. (ed.), 1998. 'Special issue CIDA's regional oceans programme workshop', *Marine Policy The International Journal of Ocean Affairs*, 22 (6):437–543.
- , G.B. Bacon, C. Mitchell and G. Vernon, 1998. 'A workshop on CIDA's regional ocean initiatives', *Marine Policy*, 22 (6):437–40.
- and G.B. Bacon, 1998. 'CIDA regional ocean initiative workshop, lesson learnt', *Marine Policy*, 22 (6):539–43.
- Hodgson, S. and J.A. Dixon, 1988. *Logging Versus Fisheries and Tourism in Palawan: an environmental and economic analysis*, East-West Environment and Policy Institute Occasional Paper, Honolulu.
- Hooper, A., 1993. 'Sociocultural aspects of development in the South Pacific', in R.V. Cole and S. Tambunlertchai (eds), *The Future of Asia-Pacific Economies: Pacific Islands at the crossroads*, National Centre for Development Studies, Australian National University, Canberra:314–42.
- , 2000. 'Introduction', in A. Hooper (ed.), *Culture and Sustainable Development in the Pacific*, Pacific Policy Paper Series 33, Asia Pacific School of Economics and Management, Australian National University, Canberra:1–21.
- Hornell, J., 1940. *Report on the Fisheries of Fiji*, Government Printery, Suva.
- Hughes, I., 1994. 'The western idea of progress: the myth that prevents sustainability', in M. Keen (ed.), *Communities, Education and Sustainability: perspectives from Thailand and Australia*, CRES, Australian National University, Canberra:17–28.
- , 1994. "'Progress" or "steady state": rediscovering cyclic renewal and continuity', in M. Keen (ed.), *Communities, Education and Sustainability: perspectives from Thailand and Australia*, CRES, Australian National University, Canberra:99–108.

- Hunnam, P., K. Means and P. Chatterton, 1996. 'Community resource conservation: WWF in Melanesia', in H. Wallace (ed.), *Developing Alternatives: community development strategies and environmental issues in the Pacific*, Victoria University of Technology, Melbourne:47-63.
- Hunt, D., 1989. *Economic Theories of Development: an analysis of competing paradigms*, Harvester Wheats, New York.
- Hviding, E., 1994. 'Customary marine tenure and fisheries management: some challenges, prospects and experiences', in G.R. South, D. Goulet, S. Tuqiri and M. Church (eds), *Traditional Marine Tenure and Sustainable Management of Marine Resources in Asia and the Pacific*, International Ocean Institute-South Pacific, Suva:88-100.
- , 1997. 'Fisheries and coastal resources: knowledge and development in the Pacific Islands', in B. Burt and C. Clerk (eds), *Environment and Development in the Pacific Islands*, National Centre for Development Studies, The Australian National University and the University of Papua New Guinea Press, Canberra:123-42.
- Hyndman, D., 1993. 'Sea tenure and the management of living marine resources in Papua New Guinea', *Pacific Studies*, 16(4).
- Ifeka, C., 1989. 'Women in fisheries: why women count – prospects for self-reliant fisheries development in the South Pacific compared to the Indian Ocean', in A.D. Couper (ed.), *Development and Social Change in the Pacific Islands*, Routledge, London:89-114.
- Ingram, M., 1987. 'Empty nets – over-fishing sinks the myth of the bountiful oceans', *Earthwatch*, VI (3):22-8.
- IOI, 1997. Report on the marine awareness workshops for Taveuni, Kadavu and Lautoka (for the Western Province of Ba, Nadroga and Ra), IOI-South Pacific, Fiji Dive Operators Association (FDOA), CIDA, Marine Studies Programme, Suva (unpublished).
- Iwakiri, S., 1983. *Mataqali of the Sea: a study of the customary right on reef and lagoon in Fiji, the South Pacific*, Kagoshima University, Kagoshima.
- Jackson, B., 1990. *Poverty and the Planet: a question of survival*, Penguin Books, London.
- Jacobs, M., 1991. *Instruments for Environmental Protection and Regulations versus Financial Incentives: the green economy-environment, sustainable development and the politics of the future*, Pluto Press, Concord.
- Jennings, S. and N.V.C. Polunin, 1996a. 'Fishing strategies, fishery development and socioeconomics in traditionally managed Fijian fishing grounds', *Fisheries Management and Ecology*, 3:335-47.
- , 1996b. 'Effects of fishing effort and catch rate upon the structure and biomass of Fijian reef fish communities', *Journal of Applied Ecology*, 33:400-12.
- , 1997. 'Impacts of predator depletion by fishing on the biomass and diversity of non-target reef fish communities', *Coral Reefs*, 16:71-82.
- Johannes, R.E., 1978. 'Traditional marine conservation methods in Oceania and their demise', *Annual Reviews Ecological Systems*, 9:349-64.
- , 1981a. *Words of the Lagoon: fishing and marine lore in the Palau District of Micronesia*, University of California Press, London.

- , 1981b. *Making Better Use of Existing Knowledge in Managing Pacific Island Reef and Lagoon Ecosystems*, Topic Review 4, SPREP, Noumea.
- , 1989. 'Managing small-scale fisheries in Oceania: unusual constraints and opportunities', in H. Campbell, K. Menz and G. Waugh (eds), *Economics of Fishery Management in the Pacific Islands Region*, proceedings of an international conference held at Hobart, Tasmania, Australia, 20–2 March, 1990, Hobart:85–93.
- and J.W. MacFarlane, 1991. *Traditional Fishing in the Torres Strait Islands*, Commonwealth Scientific and Industrial Research Organisation (CSIRO) Division of Fisheries, Hobart.
- Johnston, R.J., D. Gregory, P. Haggett, D. Smith and D.R. Stoddart, 1981. *Dictionary of Human Geography*, The Free Press, New York.
- Joint Fisheries Strategy Mission, 1988. Opportunity for fisheries development assistance in the South Pacific: a regional mission undertaken by Forum Fisheries Agency (FFA), SPC, UNDP, FAO, USAID and BDDP. Volumes 1 and 2 (unpublished).
- Kahn, J.R., 1995. *The Economic Approach to Environmental and Natural Resources*, The Dryden Press Harcourt Brace College Publishers, New York.
- Kailola, P.J., 1995a. 'Fisheries development in Tonga', *FAO Technical Report 2*, Rome.
- , 1995b. *Fisheries Development Fiji Review of Policies and Initiatives to Enhance Fisheries Management and Development in Fiji*, FAO, Rome.
- , with support from J. Opnai, A. Mobiha, C. Hair, M. Chapau, P. Polon, U. Kolkolo, C. Evans, and P. Sagom and A. Richards and L. Rodwell, 1995. *Fisheries Resources Profiles: Papua New Guinea*, FFA Report No. 95/45.
- Kane, D.Y., A.M. Hochet and B. Uyttendaele, 1996. 'Research-action-development: a fish in water', *EC Fisheries Cooperation Bulletin*, 9(1):13–14.
- Kasper, W., J. Bennett and R. Blandy, 1988. *Fiji: opportunity from adversity*, Centre for Independent Studies, New South Wales.
- Kearney, R.E., 1982. *An Assessment of the Skipjack and Baitfish Resources of Fiji*, South Pacific Commission, Noumea.
- , 1985. 'Fishery potential in the tropical, central and western Pacific: environment and resources in the Pacific', *UNEP Regional Seas Reports and Studies* 69:75–84.
- Keen, M., 1994. 'Empowering communities to act for the environment', in M. Keen (ed.) *Communities, Education and Sustainability: perspectives from Thailand and Australia*, CRES, Australian National University, Canberra:53–8.
- Kelleher, G., 1992. *The Great Barrier Reef Marine Park – a model for management of coastal seas*, Commission on National Parks and Protected Areas, IUCN (unpublished).
- Kelly, K., 1998. A journey back in time, *Fiji Times*, January 5:8, 10.
- Kent, G., 1980a. *The Politics of Pacific Island Fisheries*, Westview Press, Colorado.
- , 1980b. 'Transnational corporations in Pacific fishing', *Research Monograph 10*, National Centre for Development Studies, Australian National University, Canberra.

- King, M., I. Cartwright and A. Carver. 1989. 'Fisheries development in the Pacific Islands: some problems in paradise', in A.D. Couper, (ed.), *Development and Social Change in the Pacific Islands*, Routledge, London:47-62.
- and U. Faasili, 1997. 'Community-based management of fisheries and the marine environment', in *Fisheries and Marine Resources, Marine Studies Technical Report 98/3*, papers presented at symposium, VIIIth Pacific Science Congress, July 13-19, The University of the South Pacific, Suva.
- Kissun, S., 1999. 'PM warns on CDF', *Fiji Times*, June 25.
- Knapman, B., 1987. 'Fiji's economic history, 1874 - 1939: studies of capitalist colonial development', *Pacific Research Monograph No 15*, National Centre for Development Studies, Australian National University, Canberra.
- Lal, B.V., 1997. 'Towards a united future: report of the Fiji Constitution Review Commission', *The Journal of Pacific History*, 32(1):71-84.
- , 1999. 'A time to change: the Fiji general election of 1999', *Regime Change and Regime Maintenance in Asia and the Pacific Discussion Paper Series*. No. 23 Political and Social Change Research School of Pacific and Asian Studies, Australian National University, Canberra.
- Lal, P. N., 1990. 'Ecological Economic Analysis of Mangrove Conservation: a Case Study from Fiji', *Mangrove Ecosystems Occasional Papers*, UNDP/UNESCO Regional Mangroves Project RAS/86/120, No. 6.
- , 1991. *Macro-Environmental Standards Approach to Resource Allocation and Management: the case of Kosrae's coastal wetlands*, Islands/Australia Working Paper No. 91/1, National Centre for Development Studies, Australian National University, Canberra.
- and C. Slatter, 1982. *The Integration of Women in Fisheries Development in Fiji. Report of an ESCAP/FAO Initiated Project on Improving the Socio-Economic Condition of Women in Fisherfolk Communities*, Fisheries Division (Ministry of Agriculture and Fisheries), Centre for Applied Studies in Development, Suva.
- and B.V. Lal, 1994. 'Sustainable development in Pacific Islands: reflections on problems and prospects', *Development Bulletin*, 34:50-2.
- Larkin, P. A., 1982. 'Directions for future research in tropical multi-species fisheries', in D. Pauly, and G. I. Murphy (eds), *Theory and Management of Tropical Fisheries*, International Centre for Land and Aquatic Resources Management (ICLARM), Commonwealth Scientific and Industrial Research Organisation, Manila:309-27.
- Lasaqa, I., 1973. 'Geography and geographers in the changing Pacific: an islanders view', in H.C. Brookfield (ed.), *The Pacific in Transition: geographical perspective on adaptation and change*, Edward Arnold, London:299-312.
- , 1984. *The Fijian People Before and After Independence*, Australian National University Press, Canberra.
- Lawson, R.M., 1980. 'Development and growth constraints in the artisanal fisheries sector in the island states', in R. T. Shand (ed.), *The Island States of the Pacific and the Indian Oceans: anatomy of development*, Development Studies Centre Monograph 23, Australian National University, Canberra:61-85.

- Lea, D.A.M and D.P. Chaudhri, 1983. 'The nature, problem and approaches to rural development', in D.A.M. Lea and D.P. Chaudhri (eds), *Contradictions and Dilemmas in Developing Countries: rural development and the state*, Methuen, London:1-32.
- Legge, J.D., 1958. *Britain in Fiji 1858 - 1880*, Macmillan, London.
- Leveson-Gower, H., 1997. 'Trade and the environment', in M. Diesendorf and C. Hamilton (eds), *Human Ecology, Human Economy: ideas for an ecologically sustainable future*, Allen and Unwin, New South Wales:148-70.
- Leweniqila, M., 1999. 'The purpose of CDF', *Fiji's Daily Post*:7, April 20.
- Lewis, A.D., L.B Chapman and A. Sesewa, 1983. Biological notes on coastal pelagic fishes in Fiji, *Fiji Fisheries Division Technical Report No. 4*, Suva (unpublished).
- Leys, C., 1996. *The Rise and Fall of Development Theory*, James Currey Ltd, London.
- Liew, J., 1990. 'Sustainable development and environmental management of atolls', in W. Beller, P. d'Ayala and P. Hein (eds), *Sustainable Development and Environmental Management of Small Islands*, UNESCO and Parthenon Publishing Group, Paris:77-86.
- Lindley, R.H., 1999. 'Efficient management of artisanal/small scale fisheries development centres and their role in strengthening microeconomic enterprises in the fisheries sector: a Solomon Island perspective', in U. Tietze and M. Izumi (eds), *Selected Papers Presented at the Workshop on Economic Strengthening of Fisheries Industries in Small Island Developing States in the South Pacific*, Apia, 14-8 September, 1998, FAO Fisheries Report No. 596, FAO, Rome:21-26.
- Lockhart, D., 1998. 'Tourism', in R. Chandra and K. Mason (eds), *An Atlas of Fiji*, Department of Geography, University of the South Pacific, Suva:118-23.
- Luckett, D.G., 1987. *Monetary Policy in Fiji*, Institute of Pacific Studies/University of the South Pacific, Suva.
- Lutz, E., undated. 'Integrated environmental and economic accounting: a case study for Papua New Guinea', in P.E. Bartelmus, E. Lutz and S. Schweinfest (eds), *Toward Improved Accounting for the Environment*:108-43
- Luxton, D.M., 1992. Economic seaweeds in Kiribati: a report on mariculture, production, marketing and research on economic seaweeds in Kiribati, with particular reference to *Eucheuma*, (unpublished).
- , M. Robertson and M.J. Kindley, 1987. 'Farming of *Eucheuma* in the South Pacific Islands of Fiji', *Hydrobiologia* 151/152: 359-62.
- Maiava, I., 1998. 'Programme formulation: case study Canada - South Pacific Ocean Development Programme (C - SPODP)', *Marine Policy*, 22 (6):455-68.
- Marr, J.C., 1982. 'The realities of fishery management in southeast Asian region', in D. Pauly and G.I. Murphy (eds), *Theory and Management of Tropical Fisheries*, ICLARM, Commonwealth Scientific and Industrial Research Organisation, Manila:299-304.
- Matthews, E., 1995. *Fishing for Answers: women and fisheries in the Pacific Islands*, Women and Fisheries Network, Suva.

- May, R.C., 1980. 'Fisheries', in R. G. Ward (ed.), *South Pacific Agriculture: choices and constraints*, Australian National University Press, Canberra:324-50.
- McElroy, J.L and K. d Albuquerque, 1990. 'Managing small-island sustainability: towards a system design', in W. Beller, P. d'Ayala and P. Hein (eds), *Sustainable Development and Environmental Management of Small Islands*, UNESCO and Parthenon Publishing Group, Paris:43-56.
- McHugh, D. and P.Philipson, 1988. 'Post-harvest technology and marketing of cultured *Eucheuma* seaweeds', *FFA Report 88/2*.
- McKinnon, D., 1993. 'New Zealand development assistance that works', in A.C.Walsh (ed.), *Development that Works: lessons from Asia-Pacific*, Massey University Development Studies Monograph No. 3:A3.2.
- McLachlan, J.L., 1992. Seaweed aquaculture research and development study, South Pacific, University of the South Pacific, Suva (unpublished).
- McMaster, J., 1993. 'Strategies to stimulate private sector development in the Pacific Island economies', in R.V. Cole and S. Tambunlertchai (eds), *The Future of Asia-Pacific Economies: Pacific Islands at the crossroads*, National Centre for Development Studies, Australian National University, Canberra:275-313.
- McMichael, P., 1996. *Development and Social Change: a global perspective*, Pine Forge Press, Thousand Oaks, California.
- Mehta, S.R., 1984. *Rural Development Policies and Programmes: a sociological perspective*, Sage Publications, New Delhi.
- Mercer, M. C., 1982. Multi-species approach to fisheries management advice, Department of Fisheries and Oceans, Ottawa (unpublished).
- Mikesell, R.F., 1992. *Economic Development and the Environment: a comparison of sustainable development with conventional development economics*, Mansell, Great Britain.
- Momsen, J.H., 1991. *Women and Development in the Third World*. Routledge, London.
- Morrison, R.J. and J.E. Brodie, 1985. 'Pollution problems in the South Pacific: fertilizers, biocides, water supplies and urban waste', in A.L. Dahl and J. Carew-Reid (eds), *Environment and Resources in the South Pacific*, UNEP Regional Seas Reports and Studies No. 69: 69-74.
- Munro, J.L. and D.M.B. Williams, 1985. Assessment and management of coral reef fisheries: biological, environmental and socioeconomic aspects, Proceedings 5th International Coral Reefs Congress, Tahiti (unpublished).
- and S.T. Fakahau, 1993a. 'Appraisal, assessment and monitoring of small-scale coastal fisheries in the South Pacific', in A. Wright and L. Hill (eds), *Nearshore Marine Resources of the South Pacific: information for fisheries development and management*, Institute of Pacific Studies, Forum Fisheries Agency and International Centre for Ocean Development, Suva:15-54.

- , 1993b. 'Management of coastal fishery resources', in A. Wright and L. Hill (eds.), *Nearshore Marine Resources of the South Pacific: information for fisheries development and management*, Institute of Pacific Studies, Forum Fisheries Agency and International Centre for Ocean Development, Suva:55-72.
- Naidu, V., 1988. *State Class and Politics in the South Pacific with Case Studies of Fiji and Western Samoa*, Ph.D. Thesis, University of Sussex, Sussex.
- Naisua, S., 1999. 'Corporate planning and the role of fisheries administration and public sector in strengthening fisheries industry', in U. Tietze and M. Izumi (eds), *Selected Papers Presented at the Workshop on Economic Strengthening of Fisheries Industries in Small Island Developing States in the South Pacific*, Apia, 14-8 September, 1998, FAO Fisheries Report No. 596, FAO, Rome:99-114.
- Narayan, D., 1995. 'Issues in community based development and key features of successful community based development', *Designing Community Based Development*, Environmental Department World Bank Paper 7.
- Narayan, J., 1984. *The Political Economy of Fiji*, South Pacific Review Press, Suva.
- Nayacakalou, R.R., 1975. *Leadership in Fiji*, Oxford University Press, London.
- , 1978. *Tradition and Change in the Fijian Village*, Fiji Times and Herald, Suva.
- Nelson, W.A., undated. Report on trip to Kiribati and Fiji (unpublished).
- Nelson, S.G., 1988. Development of phycocolloid-related industries in Oceania, SPC workshop on Pacific inshore fishery resources, SPC, Noumea (unpublished).
- Newkirk, G., 1996. 'Sustainable coastal production systems: a model for integrating aquaculture and fisheries under community management', *Ocean and Coastal Management*, 32(2):69-83.
- Nichols, E.H. and G.K.F. Moore, 1985. Report of the review of international arrangements of the commercial fisheries sector Fiji 12 July-14 September, FAO, Rome (unpublished).
- Nietschmann, B., 1973. *Between Land and Water: the subsistence ecology of the Miskito Indians, Eastern Nicaragua*, Seminar Series, London.
- Norgaard, R.B. and R.B. Howarth, 1991. 'Sustainability and discounting the future', in *Ecological Economics: the science and management of sustainability*, Columbia University Press, New York:88-101.
- Nunn, P., 1987. 'Small islands and geomorphology: review and prospect in the context of historical geomorphology', *Transactions of the Institute of British Geographers, New Series*, 12:227-39.
- ODA (Overseas Development Administration), 1995. *A Guide to Social Analysis for Projects in Developing Countries*, HMSO, London.
- OECD (Organisation for Economic Cooperation and Development), 1990. *Partnership for Rural Development*, OECD, Paris.
- , 1992. *Use of Economic Instruments for Environmental Protection in Developing Countries*, Proceedings of a Workshop held at OECD Headquarters in Paris on 8 Oct. 1992, OECD, Paris.



- Office of International Affairs National Research Council, 1988. *Fisheries Technologies for Developing Countries*, National Academy Press, Washington DC.
- Olsen, S.B., 1993. 'Will integrated coastal management programs be sustainable; the constituency problem', *Ocean and Coastal Management*, 21(1-3):201-26.
- Overton, J., 1988. 'The study of rural Fiji', in J. Overton with assistance from B. Banks (eds), *Rural Fiji*, Institute of Pacific Studies, Suva:1-12.
- , 1993. 'Reflections on socio-economic change in rural Fiji', in E. Waddell and P.D. Nunn (eds), *The Margin Fades: geographical itineraries in a world of islands*, Institute of Pacific Studies, Suva:93-102.
- , 1998. 'Vakavanua, vakamatanitu: discourses of development in Fiji', *Pacific Viewpoint*, 4 (2):173-86.
- and R. Scheyvens (eds), 1999. *Strategies for Sustainable Development: experiences from the Pacific*, UNSW Press, Sydney.
- Pearson, C.S., 1988. 'Industrial relocation and "pollution havens"', *Economic Impact*, 1988/4:63-8.
- Pearce, D., E. Barbier and A. Markandya, 1990. *Sustainable Development: economics and environment in the Third World*, Edward Elgar, Worcester.
- Pearce, D.W. and J.J. Warford, 1993. *World Without End: economics, environment and sustainable development*, World Bank, Oxford University Press, Oxford.
- Pickering, T.D., 1996. Seaweed mariculture in the South Pacific Islands, University of the South Pacific, Suva (unpublished).
- and E. Ledua, 1999. The progress of aquaculture development in Fiji, University of the South Pacific, Suva (unpublished).
- Pita, E., 1996. *Development of a Multi-Disciplinary Master Plan for the Sustainable Management and Development of Fiji's Inshore Fisheries Resources*, Technical Report Prepared for the Government of the Republic of Fiji by FAO, FAO, Rome.
- Plange, Nii-K., 1996. *The 'Science' of Society: exploring the links between science, ideology and theories of development*, Fiji Institute of Applied Studies in association with the Department of Sociology, University of the South Pacific, Suva.
- Popper, D.M. and A.L. Philipp, 1983. 'Small-scale pole and line skipjack fishery in Western Samoa: report on preliminary trials', *SPC Fisheries Newsletter*, No.23.
- Porter, D., B. Allen and G. Thompson, 1991. *Development in Practice: paved with good intentions*, Routledge, London.
- Prakash, J., 1987. Report on the production and utilisation of commercial seaweed, held in Qingdao May 25-June 15 (unpublished).
- , 1989. Seaweed cultivation (*Eucheuma Alvarezzi Var Tambalang*), (unpublished).
- Prakash, J., 1998. 'Sugar', in R. Chandra and K. Mason (eds), *An Atlas of Fiji*, Department of Geography, University of the South Pacific, Suva:104-6.

- Prasad, M., 1996. From growth to equity - the *Fiji Times* coverage of changing views on development, MA Thesis, University of the South Pacific, Suva (unpublished).
- Preston, G.L., 1997. *Review of Fishery Management Issues and Regimes in the Pacific Islands Region*, SPREP, SPC, FFA, Noumea.
- Qalo, R.R., 1997. *Small Business: a study of a Fijian family, the Mucunabitu Iron Works Contractor Cooperative Society Limited*, Mucunabitu Education Trust, Suva.
- Qarase, L., 1988. 'Finance for indigenous enterprises: the case of Fiji and the Fiji Development Bank', in T.I.J. Fairbairn (ed.), *Island Entrepreneurs: problems and performances in the Pacific*, East-West Center, Honolulu:227-41.
- Ragogo, M., J. Hicks, R. Mafi and D. Turaga, 1999. 'Stop the rot: Jacobs', *Fiji Times*, June 25.
- Rainforest Action Network, 1991. 'World Bank policies cause global resource scarcity', in M. Polesetsky (ed.), *Global Resources: opposing viewpoints*, Greenhaven Press, San Diego:41-5
- Raj, U., V. Ram, I. Tuwai and the Division of Fisheries, 1986. Socioeconomic impact of fishing technologies on the fishing communities - a case study of the Fiji Islands, University of the South Pacific, Suva (unpublished).
- Ram, V., 1991. *The seaweed industry in Fiji, with special reference to Eucheuma (Rhodophyta)*. Marine Studies Technical Report No. 2. University of the South Pacific, Suva,
- Ratua, S., 1995. Aid and development Japanese Official Development Assistance (ODA) to Fiji: the case study of Japanese ODA to fisheries, MA Thesis, University of the South Pacific, Suva.
- Ravuvu, A., 1983. *Vaka i Taukei: the Fijian way of life*, Institute of Pacific Studies, Suva.
- , 1988a. 'Development communication: a study of two beef cattle projects', in J.Overton, with assistance from B. Banks (eds), *Rural Fiji*, Institute of Pacific Studies, Suva:179-203.
- , 1988b. *Development or Dependence: the pattern of change in a Fijian Village*, University of the South Pacific, Suva.
- Rawlinson, N.J.F., D.A. Milton, S.J.M. Blaber, A. Sesewa and P. Sharma, 1995. *A survey of the subsistence and artisanal fisheries in rural areas of Viti Levu, Fiji*, ACIAR Monograph No. 351, Canberra.
- Reid, W.V.C., 1990. 'Sustainable development: lessons from success', *Economic Impact*, 2 (71):26-32.
- Reilly, W.K., 1991. 'Debt-for-nature swap promote conservation', in M. Polesetsky (ed.), *Global Resources: opposing viewpoints*, Greenhaven Press, San Diego:262-66.
- Rensel, J.P., 1994. For love or money? Interhousehold exchange and the economy of Rotuma, Ph.D Thesis, University of Hawaii, Honolulu.
- Repetto, R., 1990. 'The case for national resource accounting', *Economic Impact*, 2 (71):41-6.
- Richards, A. (compiled with contribution from M. Lagibalavu, S. Sharma and K. Swamy), 1994. *Fiji's Fisheries Resources Profiles*. FFA Report, No. 94/4.

- Rodman, C.R., 1989. *Deep Water Development and Change in Pacific Village Fisheries*, Westview Press, London.
- Rogers, A.R., 1991. Conservation and development: the case of Canada's East Coast fishery, MA Thesis, York University, Ontario.
- Rose, R., 1993. *Lesson-Drawing in Public Policy: a guide to learning across time and space*, Chatham House Publishers, Chatham, New Jersey.
- Rostow, W.W., 1991. *The Stages of Economic Growth: a non-communist manifesto* 3rd edn, Cambridge University Press, Sydney.
- Royal Tropical Institute/Rural Development Programme, 1986. *Rural Development for Poverty Alleviation*, Jubilee Symposium on the Effectiveness of Cooperation in Rural Development, Royal Tropical Institute/Rural Development Programme, Amsterdam.
- Roxborough, I., 1984. *Theories of Underdevelopment*, Macmillan, Hong Kong.
- Ruccio, D.F. and L.H. Simon, 1992. 'Perspectives on underdevelopment: Frank, the modes of production school and Amin', in C.K. Wilbur and K.P. Jameson (eds), *The Political Economy of Development and Underdevelopment* 5th edn, McGraw-Hill, New York: 121-50.
- Ruddle, K., 1994. 'Traditional marine tenure in the 90s', in G.R. South, D. Goulet, S. Tuqiri and M. Church (eds), *Traditional Marine Tenure and Sustainable Management of Marine Resources in Asia and the Pacific*, International Ocean Institute-South Pacific, Suva:6-45.
- Sahlins, M.D., 1962. *Moala - Culture and Nature on a Fijian Island*, University of Michigan Press, USA.
- Samonte-Limjoco, R.D., 1999. 'Opening Statement by the Chairperson of the Pre-UNCTAD X Expert Workshop on Trade, Sustainable Development and Gender' in UNCTAD *Trade, Sustainable Development and Gender*, United Nations, New York:13-5.
- Saul, H., 1998. 'CARICOM fisheries resource assessment and management programme (CFRAMP): project monitoring and evaluation', *Marine Policy*, 22 (6):477-92.
- Scarr, D., 1980. *Ratu Sukuna Soldier, Statesman, Man of Two Worlds*, Macmillan Educational Ltd., Hong Kong.
- Schmidheiny, S. (with the Business Council for Sustainable Development), 1992. *Changing Course-Executive Summary: a global business perspective on development and the environment*, MIT Press, Cambridge.
- Schoeffel, P., 1985. 'Women in the fisheries of the South Pacific', in *Women in Development in the South Pacific: barriers and opportunities*, Papers presented at a conference held in Vanuatu from 11-14 August 1984, Development Studies Centre, Canberra:156-75.
- , 1996. *Sociocultural Issues and Economic Development in the Pacific Islands*, Pacific Studies Series, Asian Development Bank, Manila.
- Schuh, B., 1981. 'Report on fisheries development of Eua Island, Kingdom of Tonga', Rural Development Centre Technical Report No. 3, Nuku'alofa.

- Seniloli, K., 1992. The socioeconomic and cultural dimensions of ethnic fertility differences in Fiji: the case of two villages in south eastern Viti Levu, Ph.D Thesis, Australian National University, Canberra.
- Shang, Y.C., 1989. A preliminary economic assessment of aquaculture development in the FSM and Fiji, South Pacific Aquaculture Development Project, FAO, Suva (unpublished).
- Shepard, M. and L.G. Clark, 1984. South Pacific fisheries development assistance needs, opportunities for participation by UNDP, FAO, and other donors interested in supporting South Pacific fisheries development, (vol.1). (unpublished).
- Shouksmith, S., 1993. 'Philosophies, development and development studies', in A.C.Walsh (ed.), *Development that Works: lessons from Asia-Pacific*, Massey University Development Studies Monograph No. 3:A2.2.
- Shrimp Farming, undated. The Raviravi experience, Suva (unpublished).
- Sibert, J., 1986. Tuna stocks of the southwest Pacific, paper presented at *Infish Tuna Trade Conference*, 25-27 Feb. Bangkok (unpublished).
- Sidarto, A. and H. Atmowasono, 1977. 'Policies and programs of artisanal fisheries development in Indonesia', in B. Lockwood and K. Ruddle (eds), *Small-scale Fisheries Development: social science contribution*, Proceedings of a Planning Meeting held at the East-West Food Institute, Sept 6-11, East-West Center, Honolulu.
- Singh, K., 1986. *Rural Development Principles, Policies and Management*, Sage Publications, New Delhi.
- Singh, R.A., 1996. Small/medium enterprises (SMEs) in Fiji, Suva, (unpublished).
- Sisto, N., 1997. Managing the environment: the economic approach, course notes, University of the South Pacific/IOI, Suva (unpublished).
- Siwatibau, S., 1984. 'Traditional environment practices in the South Pacific - a case study of Fiji', *Ambio*, 13 (5-6):365-8.
- , 1997. 'Who controls development in the Pacific', in B. Burt and C. Clerk (eds), *Environment and Development in the Pacific Islands*, National Centre for Development Studies, The Australian National University and the University of Papua New Guinea Press, Canberra:34-45.
- Siwatibau, S., 1993. 'Macroeconomic management in the small open economies of the Pacific', in R.V. Cole and S. Tambunlertchai (eds), *The Future of Asia-Pacific Economies: Pacific Islands at the crossroads*, National Centre for Development Studies, Australian National University, Canberra:135-86.
- , 1996. 'The Pacific Island Countries: economic development issues and prospects', in R. Grynberg (ed.), *Economic Prospects for the Pacific Islands in the 21st Century*, 1995 Ray Parkinson Memorial Lectures, Suva, Fiji.
- Slatter, C., 1994a. 'Banking on the growth model? The World Bank and market policies in the Pacific', in A. Emberson-Bain (ed.), *Sustainable Development or Malignant Growth: perspectives of Pacific Island women*, Marama Publications, Suva:17-36.

- , 1994b. 'For food or foreign exchange? Regional interests versus global imperatives in Pacific fisheries development', in A. Emberson-Bain (ed.), *Sustainable Development or Malignant Growth: perspectives of Pacific Island women*, Marama Publications, Suva:123–30.
- Spaté, O.H.K., 1959. *The Fijian People: economic problems and prospects*, Legislative Council of Fiji Paper No. 13, Government Press, Suva.
- , 1960. A Commentary on the Burns Commission Report, prepared for the Fiji Broadcasting Commission (unpublished).
- SPC (Secretariat of the Pacific Community), 1999. Fiji Islands Population Profile Based on 1996 Census a guide for planners and policy-makers. SPC, Noumea.
- SPREP (South Pacific Environment Programme), 1992. *The Pacific Way: Pacific Island developing countries report to the United Nations Conference on Environment and Development*, SPREP, Apia.
- , 1998. 'News from the SPBCP-Funded Conservation Areas', CASO Link No. 7 January ([http://www.sprep.org.ws/newsletter.casolink\\_nica\\_08/03\\_htr](http://www.sprep.org.ws/newsletter.casolink_nica_08/03_htr)).
- and ESCAP, 1996. *Report to the United Nations Commission on Sustainable Development on Activities to Implement the Barbados Programme of Action in the Pacific Region*, SPREP, Apia.
- Solly, R.K. and W.E. Booth, 1976. Seaweed colloids from the South Pacific, Ninth Regional Technical Meeting on Fisheries, SPC, Noumea (unpublished).
- South, G.R., 1993a. 'Marine resources and development: a view of the future', in G.R. South (ed.), *Marine Resources and Development*, Pacific Islands Marine Resource Information System (PIMRIS), Suva:123–49.
- , 1993b. 'Seaweeds', in A. Wright and L. Hill (eds), *Nearshore Marine Resources of the South Pacific: information for fisheries development and management*, Institute of Pacific Studies, Forum Fisheries Agency and International Centre for Ocean Development, Suva: 683–709.
- , 1996. The Seaweed resources of the South Pacific (unpublished).
- , 1999. 'Support to Fishery Industry Development through Fisheries Education and Research', in U. Tietze and M. Izumi (eds), *Selected Papers Presented at the Workshop on Economic Strengthening of Fisheries Industries in Small Island Developing States in the South Pacific*, Apia, 14–8 September, 1998, FAO Fisheries Report No. 596, FAO, Rome:63–74.
- and H. Kasahara, 1992. 'A preliminary checklist of the benthic marine algae of the Fiji Islands', South Pacific, *Micronesica*, 25 (11):41–70.
- South Pacific Commission, 1994. Twenty-fifth regional technical meeting on fisheries: the present status of coastal fisheries production in the South Pacific Islands, SPC Fisheries 25/wp8 28<sup>th</sup>, Feb (unpublished).
- Stokke, O., 1991. 'Sustainable development: a multi-faced challenge', in O. Stokke (ed.), *Sustainable Development*, Frank Cass in association with EADI, London:7–28.
- Sunday Times*, 1999. 'Where did all that money really go?', Feb 7:14–5.

- Sutherland, W.M., 1989. 'Policy, law and management in Pacific Island fisheries', in A.D. Couper (ed.), *Development and Social Change in the Pacific Islands*, Routledge, London:33-46.
- Szabo, A. and T. Herman, 1984. Proposal for the development of the small-scale fisheries cooperative sector, report on a Consultancy Mission April 18-May18, Jerusalem (unpublished).
- Teiwaki, R., 1988. *Management of Marine Resources in Kiribati*, Institute of Pacific Studies, University of the South Pacific, Suva.
- Temawa, T., T. Terib'aa, T. Tebano, 1994. Socioeconomic of *Euचेuma* seaweed farming in Kiribati, Atoll Research Programme, Tarawa (unpublished).
- Thaman, K., 1993. 'A conversation about development', in A.C.Walsh (ed.), *Development that Works Lessons from Asia-Pacific*, Massey University Development Studies Monograph No. 3:A4.1-A4.3.
- Thistlethwaite, R. and G. Votaw, 1992. *Environment and Development: a Pacific Island perspective*, Asian Development Bank, Manila.
- Tisdell, C. A., 1986. 'Giant clams in the Pacific—the socioeconomic potential of a developing technology for mariculture', *Proceedings of workshop on marine technology and social change in the Pacific*, 12-13 March, Australian National University, Canberra.
- , 1991. *Developments in Environmental Economics*, (vol.1) *Economics of Environmental Conservation. Economics for Environmental and Ecological Management*, Elsevier, London.
- Todaro, M.P., 1994. *Economic Development*, 5th edn, Longman, New York.
- Travis, W., 1976. Some aspects of fisheries development in relation to small islands within Fijian waters, Suva (unpublished).
- Tupouniua, S., R. Crocombe and C. Slatter (eds), 1975. *The Pacific Way: social issues in national development*, South Pacific Social Sciences Association, Suva.
- United Nations, 1992. *Agenda 21 Programme of Action for Sustainable Development-Rio Declaration on Environment and Development-Statement of Forest Principles: the final text of agreements negotiated by Governments at the United Nations Conference on Environment and Development (UNCED)*, 3-14 June 1992, Rio de Janeiro, Brazil, United Nations, New York.
- UNESCO, 1993. 'Coasts', *Environment and Development Briefs*, UNESCO, Paris.
- Utrecht, E. (ed.), 1984. *Fiji – Client State of Australasia?* Transnational Corporations Research Project, University of Sydney, Sydney.
- Uwate, R.K. and P. Kunatuba, 1984. Aquaculture development in the Pacific Island region, paper presented to the Pacific Congress on Marine Technology, Honolulu, Hawaii (unpublished).
- , E. Talemaikanacea and J. Radrodro, 1988. Economic performance of the 28-foot fishing vessels based in Suva, Fiji, Preliminary assessment (unpublished).

- , V. Tuivakano and T. Rabuci, 1990. Fiji Fisheries Division boat building programme review considerations, Fiji Fisheries Division, Suva (unpublished).
- Vatoga, S., 1974. 'Self help fishing project begins operation', *The South Pacific Commission Fisheries Newsletter*, No.12.
- Veitayaki, J., 1990. Village-level fishing in Fiji: a case study of Qoma Island, MA Thesis, University of the South Pacific, Suva.
- , 1993. 'Village-level fishing in the Pacific', in G.R. South (ed.), *Marine Resources and Development*, PIMRIS, Suva:73-97.
- , 1994. 'Land based pollution in the Pacific: a major threat to the sustainability of ocean resources', *La Terre*, CORAIL, Noumea.
- , 1995. *Fisheries Development in Fiji: the quest for sustainability*, Institute of Pacific Studies, Ocean Resources Management Programme, University of the South Pacific, Suva.
- , 1998. 'Traditional and community-based marine resources management system in Fiji: an evolving integrated process', *Coastal Management*, 26 (1):47-60.
- and G.R. South, 1993. 'Inshore fisheries in the tropical South Pacific - a question of sustainability', in B. Japar Sidik, F.M. Yusoff, M.S. Mohd Zaki and T. Petr (eds), *Fisheries and Environment: beyond 2000*, Universiti Putra Malaysia, Serdang, Malaysia:43-51.
- , V.R. Bidesi, E. Mathews, and A. Ballou, 1996. *Preliminary baseline survey of marine resources of Kaba Point*, Fiji, USP Marine Studies Technical Report 96/1.
- Vunakece, A.D., 1974. 'Kadavu fishing project beats them all', *The South Pacific Commission Fisheries Newsletter*, No.12.
- Waddell, R., 1996. 'Technology and community development in the Solomon Islands' in H. Wallace (ed.), *Developing Alternatives: community development strategies and environmental issues in the Pacific*, Victoria University of Technology, Melbourne:85-95.
- Walsh, A.C. (ed.), 1993. *Development that Works: lessons from Asia-Pacific*, Massey University Development Studies Monograph No. 3.
- , 1995. *Getting on Top of Your Thesis*, PostGraduate Programme in Development Studies, USP in conjunction with Amokura Publications, Suva.
- Walter, M.A.H.B., 1974. 'Progress or constraint? The role of cooperation in the development of a copra-producing district of eastern Fiji', *Pacific Viewpoint*, 15 (2):149-61.
- Walton, H., 1991. Progress and planning in Fiji's artisanal fishery: a review of past activity and future options in the Rural Fisheries Development Programme, FAO/UNDP Regional Fishery Support Programme RAS/89/039, Suva (unpublished).
- Ward, R.G., 1972. 'The bêche-de-mer trade with special reference to Fiji', in R.G. Ward (ed.), *Man in the Pacific Islands*, Oxford University Press, London:91-123.

- , 1995. 'Land, law and custom: diverging realities in Fiji', in R.G.Ward and E. Kingdom (eds), *Land, Custom and Practice in the South Pacific*, Cambridge University Press, Melbourne:198–249.
- , 1998. 'Land tenure', in R. Chandra and K. Mason (eds), *An Atlas of Fiji*, Department of Geography, University of the South Pacific, Suva:92–7.
- Wasi, P., 1994. 'Lessons from Buddhism for building a more sustainable worldview', in M. Keen (ed.), *Communities, Education and Sustainability: perspectives from Thailand and Australia*, CRES, Australian National University, Canberra:53–8.
- Watters, R.F., 1969. *Koro: Economic Development and Social Change in Fiji*, Clarendon Press, Oxford.
- Waugh, G., 1986. *The Development of Fisheries in the South Pacific with Reference to Fiji, Solomon Islands, Vanuatu, Western Samoa and Tonga*, National Centre for Development Studies Islands/Australia Working Paper 86/2, Australian National University, Canberra.
- WCED (World Commission on Environment and Development), 1987. *Our Common Future*, Oxford University Press, Oxford.
- Weber, P., 1995. 'Protecting oceanic fisheries and jobs', in L.R. Brown (Project Director) *State of the World 1995: a Worldwatch Institute Report on progress towards a sustainable society*, W.W. Norton and Company, New York.
- Weimer, D.L. and A.R. Vining, 1989. *Policy Analysis Concepts and Practice*, N.J., Prentice Hall, Englewood.
- Williams, M., 1996. *The Transition in the Contribution of Living Aquatic Resources to Food Security, Food, Agriculture, and the Environment*, Discussion Paper 13, International Food Policy Research Institute, Washington, DC.
- Willmann, R. and D. Insull, 1993. 'Integrated coastal fisheries management', *Ocean and Coastal Management*, 21 (1–3): 285–302.
- Wise, M., 1997. 'Funds misused: MP', *Fiji Times*, November 25:1.
- Wiseman, G., 1993. 'Key issues of the Pacific island economies', in R.V. Cole and S. Tambunlertchai (eds), *The Future of Asia-Pacific Economies: Pacific Islands at the crossroads*, National Centre for Development Studies, Australian National University, Canberra:17–32.
- World Bank, 1992. *World Bank Report 1992: development and the environment*, Oxford University Press, Melbourne.
- , 1996a. *The World Bank Participation Sourcebook*, The World Bank, Washington DC.
- , 1996b. The World Bank Annual Report 1996 – Section Three Private Sector Development, <http://www.worldbank.org/html/extpb/annrep1996/wbar06.htm#a>.
- , UNDP, Commission of the European Communities and FAO, 1993. *Fish for the Future. Summary Report: a study of international fisheries research*, World Bank, Washington DC.



- Yabaki, A., 1997. 'Pacific-Europe links for sustainable development and environmental management', in B. Burt and C. Clerk (eds.), *Environment and Development in the Pacific Islands*, National Centre for Development Studies, The Australian National University and the University of Papua New Guinea Press, Canberra:269-88.
- Young, M., 1992. 'The design of resource rights systems: allocating opportunities for sustainable investments and resource use', *Sustainable Investments and Resource Use*, Parthenon Publishing for UNESCO, New Jersey.
- Young, E., 1988. 'Aboriginal economic enterprises: problems and prospects', in D. Wade-Marshall and P. Loveday (eds.), *Contemporary Issues in Development*, Australian National University, Darwin:182-200.
- , 1995. *Third World in the First: development and indigenous peoples*, Routledge, London.
- , C. Hunt and G. Ward, 1998. 'The environment, traditional production and population', in G. Thompson, (ed.), *Economic Dynamism in the Asia Pacific*, Routledge in association with the Open University, London:303-34.
- Zann, L., 1980. 'Traditional and introduced fishing boats in the South Pacific', *Transactions and Proceedings of the Fiji Society for the Years 1978 - 1980*, (14):104-15.
- , 1981. *Fiji's Artisanal Fisheries and Fishing Vessels: recommendations in development and training. Effects of the Energy Crisis on Artisanal Fisheries in the South Pacific Report 6*, Institute of Marine Resources, Suva.
- , 1982. 'The energy crisis in the South Pacific: problems in paradise', *Australian Fisheries*, 41:24-9.



## Appendix 1: Interview Schedule

Thank you for agreeing to meet with me. The information I will get will be treated with utmost care and confidentiality. The information is solely for the purposes of research. *VINAKA VAKALEVU.*

### **a. Project planning and implementation**

How was the project conceived?

Where did the idea of the project originate?

What were the objectives of the project?

Were socioeconomic assessments conducted?

Were market assessments conducted?

Were there any indications of difficulties when the project was being planned?

What was to be the proposed lifetime of the project?

Was there a back up plan?

How was the project monitored?

Was any aspect of traditional knowledge used in the project?

### **b. Environmental impact and the sustainability of the resource base**

Were environment impact assessments done?

What types of impacts were assessed?

Were resource assessment surveys carried out?

Were people told about the possibility of the resource getting depleted with intensive effort?

Was there a target of boat production to be met over a period of time?

What was the effect of the development on the resource?

What was the production level like before the project?

What was the production level during the project?

What was the production level after the project?

Who did the impact assessments?

### **c. Capacity and local institution building**

Was there any assessment of current capacity?

Was there any assessment of existing institutions?

Were training offered before the project commenced?

Was there any training work done (workshops, seminars, meetings and feedback)?

Who did the training?

How was the content of the training decided?

How was the curriculum of the training work related to the project?

Where were the people heading the project from?

What was the institutional arrangement set up for the project?

Was there an arrangement for reporting on any matter relating to the project?

What is done about these reports?

How was the equipment provided?

How was the equipment used?

#### **d. Integration with other sectoral activities**

Which government department was responsible for the project?

Were other government and nongovernment officials involved at any stage of the project?

How was the project related to other rural development work?

Was aid used in the project?

How was aid fund administered?

How was monitoring done?

Was assistance of any kind offered because of the project?

Was the project ever discussed at any local government or regional/provincial level?

Was there any consideration of impacts (economic or otherwise) on other sectors?

Were there on-going interaction with the project leaders?

#### **e. Consideration given to the sociocultural dimension**

How was the decision for the involvement in the project made?

How was community life affected?

Were people forewarned of what they can do?

Were people forewarned about what they can not do?

What were some of the economic changes resulting from the project?

What were some of the social changes resulting from the project?

What were some of the things the project allowed people to have?

What were some of the things the project did not allow people to have?

Was there any change in the average weekly income before, during and after the project?

Was there any change in the time allocated for different activities?

How was community work conducted during the project period?

Was there any change in gender roles and responsibilities?

#### **f. Securing and repaying loans**

Was a loan secured for the project?

What was the arrangement for getting a loan?

How was the repayment arranged?

Who were to be seen if there were difficulty meeting loan repayment requirements?

What collateral was being required for the loans?

What was the interest rate like compared to the commercial rates?

Were people asked whether they wanted a loan?

Were the terms of the loan clearly explained to the people?

What special adjustment if any was made to accommodate the local conditions?

Were people happy with the loan arrangements?

How was the income from the project distributed?

What other services have to be paid for by people?

How were the loan conditions explained to people?

#### **g. Impact of project on the people and community**

What were the effects of the project on the marine fisheries resources?

Did the project improve the quality of life of the people?

Was the benefit from the project equitably distributed?

What kind of development infrastructure was put in place to facilitate sustainable and equitable economic growth?

#### **h. Proposed solutions to the problem**

What solutions could be proposed to improve the performance of the project?

What would be a better way of implementing similar projects in future?

## **Boat Building Interview Schedule**

### **a. Public consultations and involvement of the project beneficiaries**

Were the people involved consulted during the planning of the project?

How were the people involved?

How many consultation meetings, if any, were held?

Were the people asked to comment on the project?

Who were involved in the consultation?

### **b. Project planning and implementation**

How was the project conceived?

Where did the idea of the project originate?

What were the objectives of the project?

Were socioeconomic assessments conducted?

Were there any indications of difficulties when the project was being planned?

What was to be the lifetime of the project?

Was there a back up plan to be adopted if this particular arrangement did not work?

How were the issues of human capacity building to be achieved through the project?

Was there any institutional building component?

How was the project monitored?

Was any aspect of traditional knowledge used?

### **c. Environmental impact and the sustainability of the resource base**

Was any environment impact assessments done?

What types of impacts were assessed?

Were resource assessment surveys or study carried out?

Were people ever told about the possibility of the resource getting depleted with intensive effort?

Was there any limitation on production?

What was the effect of the development on the resource?

What was the production level like before, during and after the project?

Was any monitoring work done?

Who did the impact assessments?

**d. Capacity and local institution building**

Was there any assessment of current capacity?

Was there any assessment of existing institutions?

Were training offered before the project commenced?

During the project was there any training work done?

Who did the training?

How was the content of the training decided?

Was there a train the trainers programme?

Where were the people heading the project from?

What was the institutional arrangement set up for the project?

Was there an arrangement for reporting on any matter relating to the project?

How was the equipment provided?

**e. Integration with other sectoral activities**

Which government department was responsible for the project?

Were other government and non government officials ever involved at any stage of the project?

How was the project related to other rural development work?

Was assistance of any kind offered because of the project?

Was the project ever discussed at any local government or regional/provincial level?

Was there any consideration of impacts (economic or otherwise) on other sectors?

Was there on-going interaction with the project leaders?

**f. Inappropriate choice of technology**

Who decided on the introduction of the technology?

What were the shortcomings of the technology?

Were the people asked for their technology preference?

Was there any assessment of the peoples' technology level?

How was the peoples' ability to manage and use the technology worked out?

**g. Consideration of the sociocultural dimension**

Who made the decision for the involvement in the project?

- Were the people asked if they wanted to be involved in the project?
- How was community life affected?
- Were people forewarned of what they can and can not do?
- What were some of the economic changes resulting from the project?
- What were some of the social changes resulting from the project?
- Do people prefer the conditions of life before, during or after the project?
- What were some of the things the project allowed people to have?
- What were some of the things the project did not allow people to have?
- What was the average weekly income before, during and after the project?
- Was there any change in the time allocated for different activities?
- How was community work conducted during the project period?
- Was there any change in gender roles and responsibilities?

#### **h. Securing and repaying loans**

- Was a loan secured for the project?
- Who arranged the loan?
- How was the repayment arranged?
- Who were to be seen if there were difficulty meeting loan repayment requirements?
- What collateral was being required for the loans?
- What was the interest rate like compared to the commercial rates?
- Were people asked whether they wanted a loan?
- Were the terms of the loan clearly explained to the people?
- What special adjustment if any was made to accommodate the society's conditions?
- Were people happy with the loan arrangements?
- How was the income from the project distributed?
- Did people have to pay for any other service?
- Were the loan conditions explained?
- How were this done?

#### **i. Statistics and information to base management objectives**

- What was the knowledge of the capacity of the resource?



What was the maximum level of exploitation?

Was there to be a limit to the productive capacity?

Were statistics kept for the project?

Was statistics used in project related meetings?

What management measures were used for this project?

Did people keep figures related to the project?

How was the statistics used?

**j. Political interests and political will to accept management advice**

Was the project important for political reasons?

Was there any pressure to change the way the project was operated?

Who was responsible for providing management advice?

Did the advice have any bearing on the project outcome?

Was there any situation when the advise was not adhered to?

**k. Impact of project on the people and community**

What were the effects of the project on the marine fisheries resources?

Did the project improve the quality of life of the people?

Was the benefit from the project equitably distributed?

What kind of development infrastructure was put in place to facilitate sustainable and equitable economic growth?

**l. Proposed solutions to the problem**

What solutions could be proposed to improve the performance of the project?

What would be a better way of implementing similar projects in future?

## Seaweed Farming Interview Schedule

### **a. Project planning and implementation**

Where did the idea of the project originate?

What were the objectives of the project?

Were socioeconomic assessments conducted?

Were ecological assessments of the resource made?

Were there any indications of difficulties when the project was being planned?

What was to be the lifetime of the project?

Was there a back up plan to be adopted if this particular arrangement did not work?

Was any aspect of traditional knowledge used?

### **b. Environmental impact and the sustainability of the resource base**

Was any environment impact assessments done?

What types of impacts were assessed?

Were resource assessment surveys or studies carried out?

Was there any limitation on production?

Was there a target of production to be met over a period of time?

What was the effect of the development on the resource?

Was any monitoring work done?

Who did the impact assessments?

### **c. Capacity and local institution building**

Was there any assessment of current capacity?

Was there any assessment of existing institutions?

Were training offered before the project commenced?

During the project was there any training work done?

Who did the training?

How was the content of the training decided?

Was there a train the trainers programme?

Where were the people heading the project from?

What was the institutional arrangement set up for the project?

Was there an arrangement for reporting on any matter relating to the project?

How was the equipment provided?

**d. Integration with other sectoral activities**

Which government department was responsible for the project?

Were other government and nongovernment officials ever involved at any stage of the project?

How was the project related to other rural development work?

Was assistance of any kind offered because of the project?

Was the project ever discussed at any local government or regional/provincial level?

Was there any consideration of impacts (economic or otherwise) on other sectors?

Was there on-going interaction with the project leaders?

**e. Choice of technology**

Who decided on the introduction of the technology?

Was the technology tried before it was offered for use?

What were the shortcomings of the technology?

Was there any assessment of the peoples' technology level?

How were the peoples' ability to manage and use the technology worked out?

**f. Consideration given to sociocultural dimension**

How was this place chosen for the project?

Who made the decision for the involvement in the project?

Were the people asked if they wanted to be involved in the project?

How was community life affected?

Were people forewarned of what they can and can not do?

What were some of the economic changes resulting from the project?

What were some of the social changes resulting from the project?

Do people prefer the conditions of life before, during or after the project?

What were some of the things the project allowed people to have?

What were some of the things the project did not allow people to have?

What was the average weekly income before, during and after the project?

Was there any change in the time allocated for different activities?

How was community work conducted during the project period?

Was there any change in gender roles and responsibilities?

**g. Securing and repaying loans**

Was a loan secured for the project?

Who arranged the loan?

How was the repayment arranged?

Who were to be seen if there were difficulty meeting loan repayment requirements?

What collateral was being required for the loans?

Were people asked whether they wanted a loan?

Were the terms of the loan clearly explained to the people?

What special adjustment if any was made to accommodate the society's conditions?

Were people happy with the loan arrangements?

How was the income from the project distributed?

Did people have to pay for any other service?

Were the loan conditions explained?

How were this done?

**k. Impact of project on people and community**

What were the effects of the project on the marine fisheries resources?

Did the project improve the quality of life of the people?

Was the benefit from the project equitably distributed?

What kind of development infrastructure was put in place to facilitate sustainable and equitable economic growth?

**l. Solutions to the problem**

What solutions could be proposed to improve the performance of the project?

What would be a better way of implementing similar projects in future?

## General Interview Schedule

The following questions will be used to assess each of the three chosen projects:

1. Was the project planning and implementation planned in accordance with local conditions?
2. Was enough attention given to environmental impact and the sustainability of the resource base?
3. Was there a satisfactory and suitable provision for human resource development and local institution building?
4. Was there integration with other sectoral activities?
5. Was there ample consideration given to the sociocultural dimension?
6. Was there difficulty in securing and repaying loans?
7. What were the effects of the development project on the marine fisheries resources?
8. Did the project improve the quality of life people live?
9. Was the benefit from the project equitably distributed?
10. What would be a better way of implementing similar projects in the future?

## Appendix 2: Financial analysis of some of the boat ventures

**Table 8.2: Typical annual operating costs for 11 boats in their first year**

Notes	vessel 1	vessel 2	vessel 3	vessel 4	vessel 5	vessel 6	vessel 7	vessel 8	vessel 9	vessel 10	vessel 11	Average costs	
Cost of vessel	1	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000		
Vessel life (in years)	2	10	10	10	10	10	10	10	10	10	10		
Principal		15,049	10,750	10,750	0	10,750	15,049	5,450	15,049	0	8,600	0	
Loan repayment	3	350	250	250	0	250	350	150	350	0	200	0	
Subsidized loan rate (%)		5.5	5.5	5.5	0	5.5	5.5	5.5	5.5	0	5.5	0	
	4	<u>Annual operating costs based on an average of 36 fishing trips per annum</u>											
<b>Fishing expenses</b>													
Ice	5	720	1,440	1,440	720	720	720	720	1,440	1,440	720	982	
Fuel and oil		1,080	3,240	3,240	1,800	1,800	2,520	1,080	2,520	4,500	3,240	1,800	2,438
Bait		1,620	1,620	3,240	2,520	2,520	720	720	3,240	1,620	2,520	1,915	
Captain's expenses	6	2,700	2,700	4,500	4,500	2,700	2,700	1,350	1,350	4,500	2,700	4,500	3,109
Crew's wages		1,350	9,000	4,500	2,700	2,700	1,350	1,350	9,000	4,500	9,900	4,336	
Bait	7	1,350	450	450	450	0	0	0	0	0	0	245	
Repairs and maintenance		2,250	1,350	1,350	1,350	3,150	2,250	3,150	3,150	2,250	2,250	2,332	
Fishing gear	8	1,350	1,350	1,350	1,350	630	3,240	630	2,250	3,240	1,350	2,250	1,726
Miscellaneous expenses	9	1,350	2,250	1,350	450	1,350	1,350	630	1,350	2,250	2,250	450	1,285
Government fishing permit		50	50	50	50	50	50	50	50	50	50	50	
Community fishing fee		50	50	50	50	50	50	50	50	50	50	50	
<b>Costs before interest and depreciation</b>		<b>13,870</b>	<b>23,560</b>	<b>21,520</b>	<b>15,940</b>	<b>15,670</b>	<b>14,950</b>	<b>9,730</b>	<b>13,510</b>	<b>30,520</b>	<b>19,450</b>	<b>24,490</b>	<b>18,468</b>
Interest on loan	10	741	529	529	0	529	741	317	741	0	423	0	414
Depreciation of vessel	2	2,727	2,727	2,727	2,727	2,727	2,727	2,727	2,727	2,727	2,727	2,727	2,727
<b>Total of interest and depreciation</b>		<b>3,468</b>	<b>3,256</b>	<b>3,256</b>	<b>2,727</b>	<b>3,256</b>	<b>3,468</b>	<b>3,044</b>	<b>3,468</b>	<b>2,727</b>	<b>3,150</b>	<b>2,727</b>	<b>3,141</b>
<b>Total costs</b>		<b>17,338</b>	<b>26,756</b>	<b>24,776</b>	<b>18,667</b>	<b>18,926</b>	<b>18,418</b>	<b>12,774</b>	<b>16,978</b>	<b>33,247</b>	<b>22,600</b>	<b>27,217</b>	<b>21,609</b>

- Notes: 1. 28ft in 1991 (Walton 1991:38)  
 2. Life of each vessel is assumed to be 10 years with no salvage value and depreciated on 'sum-of-years' digits' basis.  
 3. Minimum monthly repayment of (principal and interest) necessary to finalise loan in four years with no arrears incurred.  
 4. All vessels used for fishing on an average of 36 trips over each of the first 4 years.  
 5. Prices and costs are constant over time.  
 6. 'Captain's expenses' refer to wages paid to the captain, who is not the owner, and is not an appropriation of the profits.  
 7. Where 'Bait = 0', fishing nets were used.  
 8. Fishing gear has working life of less than one year and is written off annually.  
 9. Insurance costs, if any, included in miscellaneous expenses.  
 10. The annual cost is only for interest and does not include any principal, taxes, reserve payments or fees for arrears.

Table 8.3: Comparison of typical costs for 24 and 36 annual trips for 11 vessels in their first year.

	Notes	vessel 1	vessel 2	vessel 3	vessel 4	vessel 5	vessel 6	vessel 7	vessel 8	vessel 9	vessel 10	vessel 11	
Cost of vessel	1	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	
Vessel life (in years)	2	10	10	10	10	10	10	10	10	10	10	10	
Principal		15,049	10,750	10,750	0	10,750	15,049	5,450	15,049	0	8,600	0	
Loan repayment	3	350	250	250	0	250	350	150	350	0	200	0	
Subsidized loan rate (%)		5.5	5.5	5.5	0	5.5	5.5	5.5	5.5	0	5.5	0	
	4	<u>Annual operating costs based on an average of 36 fishing trips per annum.</u>											
<b>Fishing expenses</b>													<b>Average costs</b>
Costs before interest and depreciation		13,870	23,500	21,520	15,940	15,670	14,950	9,730	13,510	30,520	19,450	24,490	18,468
Interest on loan	10	741	529	529	0	529	741	317	741	0	423	0	414
Depreciation of vessel	2	2,727	2,727	2,727	2,727	2,727	2,727	2,727	2,727	2,727	2,727	2,727	2,727
Total of interest and depreciation		3,468	3,256	3,256	2,727	3,256	3,468	3,044	3,468	2,727	3,150	2,727	3,141
<b>Total costs for 36 trips</b>		<b>17,338</b>	<b>26,756</b>	<b>24,776</b>	<b>18,667</b>	<b>18,926</b>	<b>18,418</b>	<b>12,774</b>	<b>16,978</b>	<b>33,247</b>	<b>22,600</b>	<b>27,217</b>	<b>21,609</b>
Variable costs divided by 36		385	653	598	443	435	415	270	375	848	540	680	513
2 trips per month		771	1,306	1,196	886	871	831	541	751	1,696	1,081	1,361	1,026
Multiply by 12		9,247	15,667	14,347	10,627	10,447	9,967	6,487	9,007	20,347	12,967	16,327	12,312
Interest & depreciation		3,468	3,256	3,256	2,727	3,256	3,468	3,044	3,468	2,727	3,150	2,727	3,141
<b>Total costs for 24 trips a year</b>		<b>12,715</b>	<b>18,923</b>	<b>17,603</b>	<b>13,354</b>	<b>13,703</b>	<b>13,435</b>	<b>9,531</b>	<b>12,475</b>	<b>23,074</b>	<b>16,117</b>	<b>19,054</b>	<b>15,453</b>

Notes: For explanation of notes refer Table 8.2



Table 8.4: Comparison of loan repayments at various interest rates

	Subsidized interest rate				Notes	Commercial interest rate			
Principal	15,049	10,750	8,600	6,450		1	15,049	10,750	8,600
Loan period in years	4	4	4	4		4	4	4	4
Interest rate %	5.5	5.5	5.5	5.5	2	11.5	11.5	11.5	11.5
Monthly repayment	350	250	200	150	3	393	280	224	168
Total of repayments over 48 months	16,800	12,000	9,600	7,200	4	18,845	13,462	10,770	8,077
Less principal	15,049	10,750	8,600	6,450		15,049	10,750	8,600	6,450
Total interest paid over 48 months	1,751	1,250	1,000	750		3,796	2,712	2,170	1,627
<b>Average interest paid annually over 48 months</b>	438	313	250	188		949	678	542	407
<b>Average weighted interest paid in:</b>									
First year of loan	741	529	423	317		1,568	1,120	896	672
Second year of loan	546	390	312	234		1,167	848	678	509
Third year of loan	340	243	194	145		760	543	434	326
Fourth year of loan	122	87	70	52		281	201	160	120
<b>Average interest per trip over 4 years if do:</b>					5				
36 trips each year	12	9	7	5		26	19	15	11
30 trips each year	15	10	8	6		32	23	18	14
24 trips each year	18	13	10	8		40	28	23	17
18 trips each year	24	17	14	10		53	38	30	23

- Notes:
1. Prices and costs are constant over time and are in F\$.
  2. Ignores decimal points other than for interest rates.
  3. Monthly repayment at end of period.
  4. The monthly repayment includes principal and interest but no taxes, reserve payments or fees for arrears.
  5. Fisher fishes constantly at the specified number of trips over each of the 4 years.

Table 8.5: Economics of venture with varying number of trips and prices

Annual profit and loss estimates in first year for an average of 2 fishing trips per month (every month)

Saleable catch (Kgs) per trip	125	125	125	125	125	125	125	125	125	125
Price sold (per Kg)	\$2	\$2.50	\$3.00	\$3.50	\$3.80	\$4.00	\$4.50	\$5.00	\$5.50	\$6.00
Revenue per trip	\$250	\$313	\$375	\$438	\$475	\$500	\$563	\$625	\$688	\$750
Trips per month	2	2	2	2	2	2	2	2	2	2
Revenue per month	\$500	\$625	\$750	\$875	\$950	\$1,000	\$1,125	\$1,250	\$1,375	\$1,500
<b>Revenue per annum</b>	<b>\$6,000</b>	<b>\$7,500</b>	<b>\$9,000</b>	<b>\$10,500</b>	<b>\$11,400</b>	<b>\$12,000</b>	<b>\$13,500</b>	<b>\$15,000</b>	<b>\$16,500</b>	<b>\$18,000</b>
Less total fishing expenses	15,453	15,453	15,453	15,453	15,453	15,453	15,453	15,453	15,453	15,453
<b>Net Profit/Loss</b>	<b>-9,453</b>	<b>-7,953</b>	<b>-6,453</b>	<b>-4,953</b>	<b>-4,053</b>	<b>-3,453</b>	<b>-1,953</b>	<b>-453</b>	<b>1,047</b>	<b>2,547</b>

Annual profit and loss estimates in first year for an average of 3 fishing trips per month (every month)

Saleable catch (Kgs) per trip	125	125	125	125	125	125	125	125	125	125
Price sold (per Kg)	\$2	\$2.50	\$3.00	\$3.50	\$3.80	\$4.00	\$4.50	\$5.00	\$5.50	\$6.00
Revenue per trip	\$250	\$313	\$375	\$438	\$475	\$500	\$563	\$625	\$688	\$750
Trips per month	3	3	3	3	3	3	3	3	3	3
Revenue per month	\$750	\$938	\$1,125	\$1,313	\$1,425	\$1,500	\$1,688	\$1,875	\$2,063	\$2,250
<b>Revenue per annum</b>	<b>\$9,000</b>	<b>\$11,250</b>	<b>\$13,500</b>	<b>\$15,750</b>	<b>\$17,100</b>	<b>\$18,000</b>	<b>\$20,250</b>	<b>\$22,500</b>	<b>\$24,750</b>	<b>\$27,000</b>
Less total fishing expenses	21,609	21,609	21,609	21,609	21,609	21,609	21,609	21,609	21,609	21,609
<b>Net Profit/Loss</b>	<b>-12,609</b>	<b>-10,359</b>	<b>-8,109</b>	<b>-5,859</b>	<b>-4,509</b>	<b>-3,609</b>	<b>-1,359</b>	<b>891</b>	<b>3,141</b>	<b>5,391</b>

Table 8.6: Typical vessel's economic profile over 10 year operating life.

Vessel 1	Notes	Year of Operation									
		1	2	3	4	5	6	7	8	9	10
Revenue:	1	17,100	17,100	17,100	17,100	17,100	17,100	17,100	17,100	17,100	17,100
Fishing costs before interest and depreciation	2	13,870	13,870	13,870	13,870	13,870	13,870	13,870	13,870	13,870	13,870
Interest on loan		741	546	340	122	0	0	0	0	0	0
Depreciation of vessel		2,727	2,455	2,182	1,909	1,636	1,364	1,091	818	545	273
Total of interest and depreciation	3 4	3,468	3,001	2,522	2,031	1,636	1,364	1,091	818	545	273
Total costs		17,338	16,871	16,392	15,901	15,506	15,234	14,961	14,688	14,415	14,142
Net Profit/Loss		-238	229	708	1,199	1,594	1,866	2,139	2,412	2,685	2,957
Major assets and liabilities of venture											
Principal owing		11,590	7,937	4,077	0	0	0	0	0	0	0
Depreciated value of vessel		12,273	9,818	7,636	5,727	4,091	2,727	1,636	818	273	0

- Notes: 1 All vessels used for fishing on an average of 36 trips over each of the first 4 years.  
 2 Prices and costs are constant over time and are in \$F/j.  
 3 The annual cost is only for interest and does not include any principal, taxes, reserve payments or fees for arrears.  
 4 Life of each vessel is assumed to be 10 years with no salvage value and depreciated on "sum-of-years" digits" basis.



Participants Register: Rural Fisheries Training Programme, 1981-87

Address	Organisation	Source of Finance	Remarks
Savarekareka, Savusavu	School	FDB	For school use
Lasakau, Bau	Fishing Group	FDB	Lasakau Fishing Group
Nuku, Rewa	Youth Group	FDB	Youth Group
Navilaca, Noco, Rewa	Fishing Coop	Foreign Aid	Mataqali group
Kiova, Bau, Tailevu*	Fishing Group	FDB	Valevou Fishing Group
Lomankoro, Rewa	Fishing Group	FDB	Nontraditional fishing group but highly regarded trainee
Nabua, Rewa	Youth Group	FDB	Nabua Youth Group
Naigani, Sawakasa, Tailevu	Co-operative	FDB	Navatunawa Co-operative Society
Qoma, Sawakasa, Tailevu*	Co-operative	FDB	Members interested in training and backup from Fisheries Division
Dravuni, Ono, Kadavu*	Fishing Group	FDB	Villagers only source of income
Muanaira, Fulaga, Lau	Fishing Group	Foreign Aid - \$5300	Muanaira Fishing Scheme
Daku, Naceva, Kadavu	Fishing Group	FDB - \$5300	Daku Fishing Scheme
Naividamu, Fulaga, Lau	Fishing Group	Foreign Aid - \$5300	Naividamu Fishing Scheme
Nauouo, Levuka, Ovalau	Fishing Group	FDB - \$5300	Nauouo Fishing Group
Veidala, Nakorotubu, Ra	Fishing Group	FDB - \$5300	Raoba Fishing Group
Nabalebale, Vika, Yasawa*	Fishing Group	FDB - \$5300	Nabalebale Fishing Group
Yaqeta, Yasawa*	Fishing Group	FDB - \$5300	Ratu Busa Fishing Group - a hard working man
Soso, Naviti, Yasawa	Fishing Group	FDB - \$5300	Tui-na -Viti Fishing Scheme
Voaiki, Matacaivalavu, Yasawa	Fishing Group	FDB - \$5800 - gear	St. John's Fishing Group
Malakati, Yasawa	Fishing Group	FDB - \$6000	Yavusa Ratu Fishing Group, 22 households, loan approval delayed
Yatawa-i-rai	Fishing Group	FDB - \$6000	Tuidamu Fishing Scheme - a family scheme with 5 households
Teci, Yasawa	Fishing Group	FDB - \$6000	Teci Village fishing scheme
Kavewa, Dogotuki, Macuata	Fishing Group	FDB - \$6000	For Kavewa Islanders, loan approval delayed
Navatu, Kubulau, Bua	Fishing Group	FDB - \$6000	Owned by 12 young fishers from Navatu
Yadua, Bua	Fishing Group	FDB - \$6000	Fishing is only source of income, loan approval delayed
Yaqaga, Bua	Fishing Group	FDB - \$6000	Traditional fishers, only source of income, loan approval delayed
Tovulala, Nairai	Fishing Group	FDB - \$7190	Tabu Soro Fishing Scheme, loan approval delayed
Malahaha, Rotuma	Co-operative	FDB - \$6000	Malahaha Enterprise Co-operative, loan approval delayed
Udukacu, Tavuni	Fishing Group	FDB - \$6000	A family business

Address	Organisation	Source of Finance	Remarks
Togalevu, Rewa	Youth Group		Brought by MAFF to have training, not to have a boat
Namagumaga, Serua	Youth Group	FDB - \$6450	Youth Group, 22 new members, wish to sell to 6 nearby hotels
Natumua, Kadavu	Fishing Group		Family group, loan rejected, owed money to FDB, fishing experience
Nakawaga, Mal, Macuata	Fishing Group	FDB - \$6000	Village project, people using 3 outboards, sell to NMA Labasa
Taciteka, Dawasamu, Tailevu	Fishing Group	FDB	Village project, loan approval delayed, experienced fishers
Vundamoli, Wailevu, Cakaudrove	Fishing Group	FDB - \$6460	Part of village development, 17 members, sell fish in Savusavu
Somosomo, Gau, Lomaiviti*	Fishing Group	FDB - \$6450	Saqasere Fishing Group, 15 family members, experienced fishers
Bouwaga, Vatulele, Nadroga	Fishing Group	FDB	Kurulagi, 5 household members, sell to Hyatt Regency
Yalobi, Waya, Yasawa	Fishing Group	FDB - \$5800	Village project with 34 members, market in Lautoka
Vunibau, Serua	Youth Group	FDB - \$6360	72 members who are traditional fishers, markets in Navus and Suva
Natokowaga, Lautoka	Fishing Group	FDB - \$5800	Family of experienced fishers, one a former employed in Fisheries
Togalevu, Rewa	Youth Group	FDB - \$6250	MAFF supported the group, involved in farming as well
Naigani, Batiki, Lomaiviti*	Fishing Group	FDB	Oneibau Mataqali Project, formerly fishing with IKA, highly regarded trainee
Tavea, Lekutu, Bua	Fishing Group	FDB	Traditional fishers, highly regarded trainee
Dravuwalu, Kadavu	Co-operative	FDB	Owned by 4 villages in the yavusa, highly regarded
Mau, Namosi	Fishing Group	FDB	Nauluvatu Mataqali, originally from Kadavu, highly regarded trainee
Delanavesi, Suva	Private	FDB	Originally from Moce, used to fish with IKA, not highly regarded
Lomawai, Nadroga	Fishing Group	FDB	A mataqali project, highly regarded trainee
Labasa	Co-operative	FDB	Fishing Co-op. for two villages on Drudrua, highly regarded trainee
Bureito, Nakelo, Tailevu	Fishing Group	FDB	Family group with 13 members, experienced fisher, best student
Votua, Ba	Fishing Group	FDB	Experienced fisher, unwilling to take responsibility, MAFF nominee
Vitogo, Ba	Fishing Group	FDB	Youth of Vitogo, experienced fishers, highly regarded trainee
Tuvuca	Youth Group	Foreign Aid/FDB	NZ aid-\$3000 and loan of \$4450, willing but slow
Togalevu, Rewa	Youth Group		MAFF nominee, not taking a boat, hard worker
Lakeba, Saqani, Cakaudrove	Fishing Group	FDB	Navumali Fishing Scheme, highly regarded trainee
Nacula, Yasawa, Ba	Fishing Group	FDB	Highly regarded experienced fisher who tries his best
Vanuasolo, Gau, Lomaiviti*	Youth Group	World Vision-\$6300	Average performer
Votua, Ba	Private	FDB	Nominee of MAFF, not highly regarded
Tavua, Ba	Fishing Group	FDB	Navotukuyawa, nominee of a Minister, highly regarded trainee
Yaroi, Savusavu, Cakaudrove	Fishing Group	Foreign Aid - \$6300	Yaroi Fishing Scheme, NZ Aid, highly regarded

Address	Organisation	Source of Finance	Remarks
Vatani, Kaba, Tailevu	Fishing Group	Foreign Aid/FDB	Vatani Fishing Scheme, NZ Aid - \$4500, average performer
Naroi, Moala, Lau	Fishing Group	FDB	Kasokaso, loan approved after earlier rejection, best student
Malahaha, Rotuma	Co-operative	FDB	Boat given in 1984, average performer with drinking problem
Galoa, Buia	Fishing Group	FDB	Mechanically competent but drinks too much, traditional fisher
Toorak, Suva	Private	FDB - \$6300	Highly regarded experienced fisher who tries his best
Narocovo, Vutia, Rewa*	Fishing Group	Foreign Aid/FDB	Experienced fisher, used longline, hard worker but drinks heavily
Lautoka, Ba	Private	FDB	Not serious, drinking will be a problem, received boat in 1984
Samabula, Suva	Private	FDB	Experienced operator who will have problem with his drinking
Vione, Gau, Lomaiviti*	Fishing Group	World Vision/FDB	Average ability and needs to work hard
Bokonkai, Rabi	Fishing Group	Rabi Council	Traditional fishers, highly regarded
Solevu, Mamanuca*	Fishing Group	FDB	Needs to work hard and cut down on drinking
Wailalai, Ba	Private		Pulled out of course because his father had a stroke
Nasililili, Yasawa	Fishing Group	FDB	Experienced commercial fisher, highly regarded
Salia, Nayau, Lau	Youth Group	Foreign Aid	Salia Youth Club, highly regarded
Kalokolevu, Rewa	Private	FDB	Family fishing business, needs to exert himself
Wasavulu, Labasa, Macuata	Fishing Group	Foreign Aid	Lebaivalu Fishing Scheme, NZ aid, highly regarded trainee
Kioa, Cakaudrove	Fishing Group	Foreign Aid	Kioa Fishing Scheme, traditional fishers, average worker
Tavuki, Kadavu	Fishing Group	FDB	Wela Fishing Scheme, average performer
Votualalai, Nadroga	Private	FDB	Family business, no experience and needs to be motivated
Nakavika, Ba	Fishing Group	FDB	Experienced commercial fisher, best student
Yaro, Kia, Macuata	Private	FDB	Experienced commercial fisher, highly regarded
Bureta, Ovalau, Lomaiviti	Community Group	Foreign Aid	Bureta Community Scheme, NZ aid, best student
Verevene, Nakorotubu, Ra	Fishing Group	FDB	Average worker who has to control his drinking
Nanere, Lagere	Private	FDB	A commercial fisher who has to work hard
Nukudamu, Macuata	Fishing Group	FDB	Nukudamu Fishing Scheme, experienced fisher who should do well
Loki, Rewa	Fishing Group	Foreign Aid/FDB	Needs to be motivated and to control his drinking
Naisogovau, Bau, Tailevu	Fishing Group	FDB	Experienced commercial fisher but has to work harder
Delainavesi, Suva	Fishing Group	FDB	Experienced commercial fisher, best student award
Vovovoro, Macuata	Fishing Group	FDB	Traditional fishers, average worker, needs to control his drinking
Namara, Labasa, Macuata	Fishing Group	FDB	Experienced commercial fisher, needs consistent effort

Address	Organisation	Source of Finance	Remarks
Nagasava, Saqani, Cakaudrove	Fishing Group	FDB	Industrious worker, most improved student
Nankoso, Ono, Kadavu	Fishing Group	FDB	Has to work hard and control his drinking habits
Viro, Ovalau, Lomavili	Fishing Group	FDB	A good hard worker with experience, has to control his drinking
Levuka, Lakeba, Lau	Fishing Group	Foreign Aid	Village scheme, Canadian Aid, highly regarded - Leadership Award
Tavua, Ba	Fishing Group	FDB	Average worker who must control his drinking
Nacula, Yasawa*	Fishing Group	FDB	A good worker who has to control his drinking
Yaqeta, Yasawa*	Fishing Group	FDB	Vatulevu Fishing Group, must work hard
Vatuvonu Jun. Sec. Cakaudrove	School	SDA Church	Vatuvonu Junior Sec. Sch, no prior experience, has to work hard
Dama, Bua	Fishing Group	Foreign Aid	Navutseko Fishing Scheme, Canadian Aid, highly regarded trainee
Komo, Lau	Fishing Group	Foreign Aid	Yavusa Fishing Scheme, NZ Aid highly regarded
Namara, Labasa, Macuata	Youth Group	FDB	Youth group, good worker has to control drinking, got boat in 1986
Kedra, Dogofaki, Macuata	Youth Group	FDB	Recommended by Director of Youth, no experience, has to work hard
Oinafa, Rotama	Fishing Group	FDB	Young but conscientious, most improved student
Naisitili, Nacula, Yasawa*	Fishing Group	FDB	Experienced fisher and a good worker, has to control drinking
Rukua, Beqa, Rewa	Youth Group	Foreign Aid/FDB	Youth Club, highly regarded
Matawaku, Lautoka	Fishing Group	FDB	A hard worker who has to control his drinking
Taunovo, Vabulele, Nadroga	Fishing Group	Foreign Aid/FDB	NZ aid and FDB loan, has to work hard and control drinking
Biana, Vunisea, Kadavu*	Fishing Group	FDB	Biana Fishing Project
Dakubega, Beqa, Rewa	Fishing Group	Govt Grant/FDB	A good worker, has to control drinking, no experience
of-Fisheries, Labasa	Private	FDB	Family venture, experienced fisher, needs to control his drinking
P O Box 717 Nadi	Youth Group	N Z Aid	Youth Council, experienced fisher, needs to work hard
Naibalebale, Vias, Yasawa*	Fishing Group	FDB-\$1,500	A family venture, fishing background, highly regarded trainee
Vunikodi, Udu, Macuata	Co-operative	FAB/FDB	Solayani Co-operative Society, no experience, works hard
Teci, Yasawa, Ba	Fishing Group	FDB-\$1,500	Needs to be motivated and control his drinking
Nalauwaki, Waya, Yasawa	Fishing Group	FDB	Experience as a commercial fisher, best student
Waitoga, Nairai, Lomavili	Youth Group	World Vision & FDB	World Vision provided \$3000, good worker, has to control drinking
Tacinua, Suva	Fishing Group	FDB	Commercial fisher experience, needs to control drinking
Yaro, Kia, Macuata	Fishing Group	FDB	Experienced commercial fisher, best student
Ligau, Kia, Macuata	Fishing Group	FDB-\$1,500	Good experienced fisher, needs to control his drinking
Namalata, Kadavu	Fishing Group	FDB	A hard worker, should control drinking, most improved student



Address	Organisation	Source of Finance	Remarks
Moce, Lau	Fishing Group	Foreign Aid	Most improved student but didnt take a boat
Dalicon, Vanua Balavu, Lau	Fishing Group	FDB-\$3,000	A retired teacher, best student, received boat in 1987
Vuaki, Yasawa	Fishing Group	FDB-\$11,000	Davekadra Fishing Scheme, received boat in 1987
Nakawaqa, Mali, Macuata	Fishing Group	FDB	Veitacini Fishing Scheme, best student
Levuka, Ovalau, Lomavivi	Youth Club	FDB - \$1700	Levuka Youth Club, purchase of old vessel
P O Box 348, Labasa	Fishing Group	FDB	Macuata Fishing Scheme, received boat in 1987
Ligau, Kia, Macuata	Fishing Group	FDB	Trainee too immature and drinking heavily
Nukavou, Nakasaleka, Kadavu	Fishing Group	FDB	Nakavou Fishing Scheme, most improved student
Nawaqarus, Votua, Ba	Fishing Group	Foreign Aid & FDB	Loan declined by FDB, try again in 1987, highly regarded trainee
Batnuciwai, Wanunu, Bua	Private	FDB	Sponsored by Lui Murphy, too young and has to work hard
Dakuloa, Oneata, Lau	Youth Group	Foreign Aid	Trainee needs to work harder and control his drinking
Malakab, Nacufa, Yasawa*	Fishing Group	FDB	Average performer who has to work harder
Nabubu, Vasoqa, Macuata	Fishing Group	Foreign Aid	NZ aid, Immature trainee who needs to work hard
Navaka, Navakasiga, Bua	Fishing Group	FDB	Highly regarded trainee, left without boat due to financing problems
Nasau, Navakasiga, Bua	Fishing Group	FDB	Nasau Fishing Scheme, highly regarded trainee
Nasau, Dama, Bua	Fishing Group	FDB	Naisacake Fishing Scheme, highly regarded trainee
Rabi	Private	FDB	Experienced fisherman but lacks discipline
Naivakarauhini, Kadavu	Fishing Group	FDB	Head floy and best all-rounder
Nakuvou, Kadavu	Youth Group	FDB	Nakuvou Youth Group, enthusiastic and promising worker
Daga, Nakasaleka, Kadavu	Youth Group	FDB	Trainee lacks discipline, needs to work hard
Lasekau, Bau	Fishing Group	FDB	Hard working trainee but needs to refrain from drinking
Lagere, Nasinu	Fishing Group	FDB	Inexperienced trainee, always gets sea-sick
Nasilai, Nakelo, Talevu	Youth Group	FDB	Bulamai Wai Youth Group, highly regarded trainee
Kesa, Naviti, Yasawa*	Fishing Group	FDB	Reserved trainee, needs encouragement and follow-up
Guru, Naviti, Yasawa*	Fishing Group	FDB	Reserved trainee, needs encouragement and follow-up
Naviti, Yasawa*	Fishing Group	FDB	Very quiet and needs a lot of support from group members
Viva, Yasaqa*	Fishing Group	FDB	Refrain from yaqona drinking, needs support and encouragement
Namuka-i-Lau, Lau	Youth Group	FDB	Highly regarded, needs encouragement, support