

Forthcoming in *Tourism Management* (2007), doi:10.1016/j.tourman.2007.01.012

# The Learning Tourism Destination: The potential of a learning organisation approach for improving the sustainability of tourism destinations

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## Abstract

Globalisation, increasing complexity, and the need to address triple-bottom line sustainability have seen the proliferation of Learning Organisations (LO) who, by definition, have the capacity to anticipate environmental changes and economic opportunities and adapt accordingly. Such organisations use system dynamics modelling (SDM) for both strategic planning and the promotion of organisational learning. Although SDM has been applied in the context of tourism destination management for predictive reasons, the current literature does not analyse or recognise how this could be used as a foundation for an LO. This study introduces the concept of the Learning Tourism Destinations (LTD) and discusses, on the basis of a review of six case studies, the potential of SDM as a tool for the implementation and enhancement of collective learning processes. The results reveal that SDM is capable of promoting communication between stakeholders and stimulating organisational learning. It is suggested that the LTD approach be further utilised and explored.

**Keywords:** learning organisation; learning tourism destination; organisational learning; systems thinking; system dynamics modelling

## 1. Introduction

Over the past decade a significant amount of research has been devoted to sustainable tourism management and development. Tourism researchers from all over the world have provided many useful insights that have helped to advance the concept of sustainability for the industry. We now know that sustainability must be conceived as a transition and learning process (Farrell & Twining-Ward, 2005), and as a “moving” rather than a static goal (Lee, 2001). These findings are especially important with respect to the tourism industry, because “tourism is an inherently non-linear, complex and dynamic system” (McKercher, 1999) that cannot be predicted with sufficient accuracy, and therefore has to be managed adaptively (Farrell & Twining-Ward, 2005). Adaptive management (AM) approaches are based on continuous and collective learning concepts that acknowledge uncertainties, and allow for timely adjustment of planning and management strategies (Holling, 1978). This implies that in order to advance sustainability in the tourism industry, approaches are needed that promote stakeholder collaboration and learning on an organisational as well as destination or regional level. Learning on a destination or regional level is necessary to ensure that sustainable development issues, beyond the scope and responsibility of private organisations and/or local authorities, are incorporated.

This study proposes a framework for a Learning Tourism Destination (LTD) based on the concept of the Learning Organisation (LO) (Senge, 1990), which uses systems thinking and system dynamics modelling (SDM) approaches to implement and foster collective learning processes. Although SDM has been applied in the context of tourism destination management for strategic planning and impact prediction (Holling, 1978; van den Bergh, 1991; Walker,

Greiner, McDonald, & Lyne, 1999; Wiranatha, 2001), the current literature does not systematically evaluate the value of the tool for organisational learning. SDM, a computer-based methodology to support systems thinking by simulating the dynamics of complex systems, is often used to quantify the effects of the interconnections and time delays and to run “what if” simulations to test certain policies (Forrester, 1971; Meadows, Randers, & Meadows, 2004; Sterman, 2000; van den Belt, 2004). The main value of SDM, however, is not to predict the future, but to show that complex economic, environmental, and social systems are unpredictable, that it is important to learn to live with uncertainties, and that it is necessary to adapt to the unexpected (Holling, 1978).

LOs have been little discussed in tourism literature, although there have been evaluations of the concept in hotels in Turkey (Bayraktaroglu & Kutanis, 2003) and Taiwan (Yang, 2004). Application of LO on destination level, however, has not yet been examined. Saxena (2005) conceptualised tourism destinations as “learning regions,” a concept that has been fostered by international organisations such as the Organisation for Economic Cooperation and Development (OECD) and UNESCO (Cooke, 1997; OECD, 2001), but did not evaluate the effectiveness of SDM as a tool in the implementation of organisational learning.

An LTD framework needs to take into account that tourism destinations differ considerably from those organisations where the LO concept has been implemented with demonstrable success (Flood, 1999; Senge, 1990; Senge, Kleiner, Roberts, Ross, & Smith, 1994). The authors therefore begin by establishing the basic elements of an LTD and use these basic elements to analyse six case studies of system dynamic models constructed for tourism destinations. In the process the study reconceives SDM as a tool for the implementation and enhancement of collective learning by sustaining systemic awareness. The results of this analysis indicate that the effectiveness of SDM for sustainability assessment may be increased through its incorporation in the foundation of the LTD.

## **2. Conceptualising the implementation of the LTD**

### *2.1. Defining the LTD*

The LO concept puts tourism sustainability in a different context to most conventional approaches which focus on problem solving. These approaches require problems to be clearly defined and isolated and this may be difficult in the case of tourism due to complexities at all levels (e.g. stakeholders, site diversity, etc.). The application of the LO concept would alleviate this need to focus on problem solution and allow tourism stakeholders to concentrate on applying and testing theories, methods, and tools with the aim of increasing their own skills. Thus, a shared understanding of:

- how the tourism destinations function,
- how market possibilities can be enhanced,
- the requirements for adaptation to changing environments,
- how to promote collective awareness of eventual economic, social, and environmental risks and impacts, and
- how risks can be minimised and/or countered

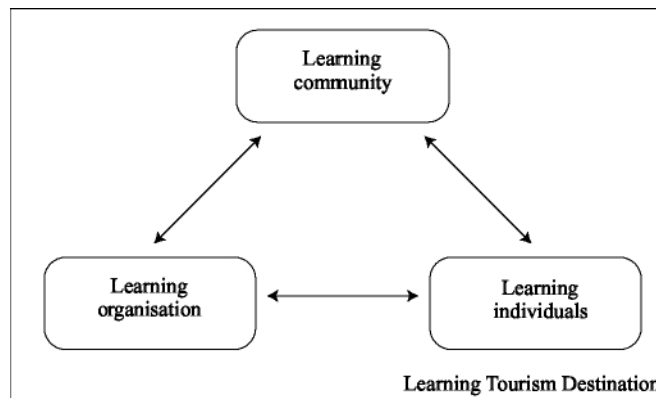
can be developed. In other words, the goal has changed from achieving sustainable tourism destinations to creating tourism organisations within a destination which are adaptive to change and capable of learning how to improve sustainability continuously.

Although the goals and benefits of LO and learning regions are largely described in the current literature, definitions of the concepts remain vague and broad, and do not provide an adequate basis for the deduction of a practical implementation framework.

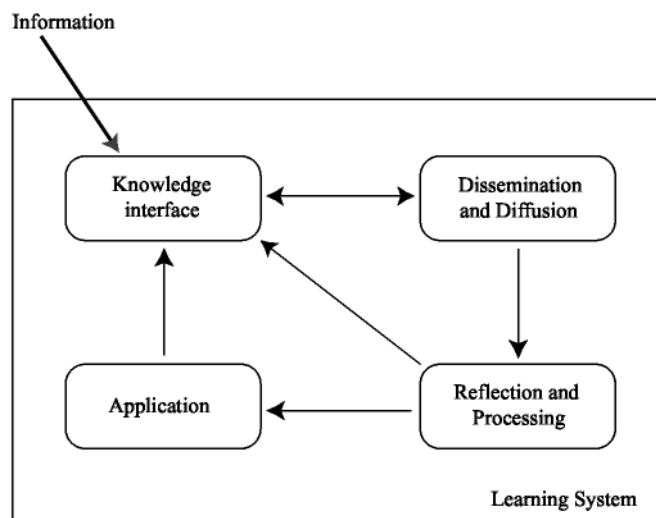
Senge (1990, p. 3) for instance defined LOs as “organisations where people

continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning how to learn together.” More recently, LOs have been described as organisations that continually expand their capacity to create their own future (Flood, 1999; Senge et al., 1999). The application of this definition to tourism destinations, although possible, does not lead to a workable LTD concept. Boekema, Morgan, Bakkers, and Rutten (2000) argue that the LO applied to a region is too complex an issue to be captured in one phrase. Geenhuizen and Nijkamp (2000, p. 39) describe it in two parts: “First, it refers to areas which have a body of knowledge (incorporated in research institutes and laboratories, higher education facilities) through which they can augment their productivity. Secondly, the concept refers to areas which use this body of knowledge to try to achieve a better performance through active and comprehensive learning.” These two descriptions highlight that it is important to define the possible bodies of knowledge, the areas where learning occurs, and the areas where knowledge will be applied.

In order to find a workable definition of an LTD, Geenhuizen and Nijkamp’s description of a learning region has to be tempered by the need to acknowledge that organisational, community, and individual learning are highly interlinked and must be viewed in the context of each other (Marsick & Watkins, 1999) (Fig. 1). The self-development of an individual, for example, occurs in the context of working in organisations and living in a community. This plays a major role in the definition and implementation of the LTD.



**Fig. 1.** The LTD in the context of LOs, learning communities, and individuals.



**Fig. 2.** Information system in LOs.

As previously stated, the promotion of collaboration and the implementation and maintenance of networking infra-structures are fundamental to information exchange between different organisations within the body of knowledge, and also to allow for more effective learning circles.

Furthermore, the learning process is not only defined by the bodies of knowledge and the areas of application, but also by the processes of dissemination, processing, and reflection, and the feedback loop between the knowledge interface through which new external information is collected and the areas where this knowledge is disseminated, processed, and applied (Fig. 2).

Based on these considerations, the definition of LTD proposed is any tourism city, town, village, and surrounding area that in the process of achieving agreed upon objectives based on the collective goal of sustainable development:

- a) uses lifelong learning as an organising principle and social goal for community, organisations, and individuals;
- b) promotes collaboration of the tourism, civic, voluntary, and education sectors;  
and
- c) provides an infrastructure to collect new information, disseminate, process, and apply gained knowledge.

Although the theory of building LOs and learning regions is accepted world wide, implementation within tourism destinations has been little discussed and/or researched. In particular, there is a need to explore the effectiveness of tools such as SDM for implementation and maintenance of the LTD that have been promoted and tested in the context of LO in other industries.

## *2.2. Requirements for building an LTD*

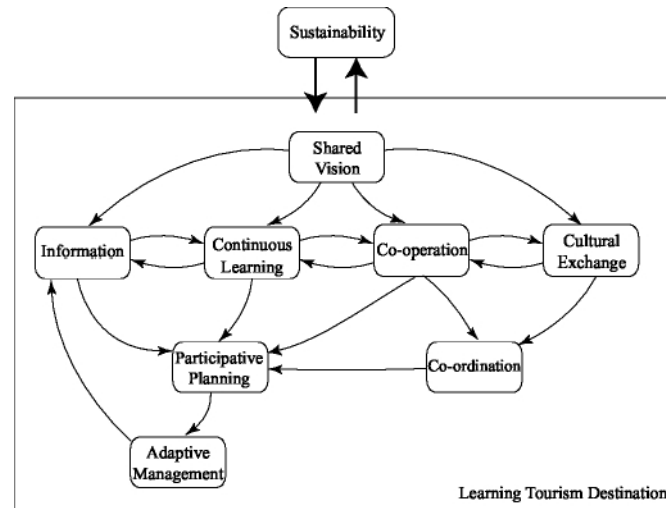
While the concepts of systems thinking, LO, and learning regions are vital for understanding the necessity of organisational learning, they do not in themselves provide much guidance on implementation. A practical framework including a set of effective tools and procedures is needed in order to span the gap between vision and practice. This is in particular important in the context of tourism destinations as they possess some unique characteristics.

Firstly, tourism destinations often develop dynamically. During the life cycle of a tourism destination, the stakeholder mix changes continuously and drastically from, for example home stay and second-income businesses with primarily inexperienced hosts and employees to highly specialised and competitive tourism businesses. For the LTD this means that the traditionally established collaboration and naturally grown networking structures of a rural community supporting home stay tourism have to be replaced by more business or goal-oriented and regulated networks.

Secondly, many tourism destinations face a massive influx of tourists and seasonal employees on a short-term or seasonal basis. These people are transitory, that is, they only stay for a short period and do not necessarily come back. Thus training and information programs, in order to be effective, have to be designed to be more flexible than those in industrial LOs where the population is less transitory.

Thirdly, the tourists as clients of tourism destinations have an immediate impact on the product and the location itself. The same holds true for the associated manufacturing or service infrastructure (i.e. resorts, accommodation facilities, access roads, transport, etc.). Overdevelopment and overcrowding of tourism destinations accompanied by environmental and social impacts destroy the very basis of the original tourist attraction. Thus, the inclusion of the client/tourist in the learning system as well as the assessment of environmental and social impacts by planners and developers is a fundamental requirement if the destination is to be sustainable.

Furthermore, tourism destinations vary in scale from whole countries and states to small tourism sites and resorts. The chosen scale for the implementation of an LTD will influence its effectiveness. Setting boundaries too large, for instance at country or state level, could be problematic because issues are too diverse and complex, whereas boundaries that are too narrow (e.g. resorts, hotels, individual tourism sites) do not allow the maintenance of adequate learning and networking infrastructures. Hence a suitable scale for the LTD could be a destination under a local authority or municipality, through which regional planning, management, and regulation are carried out.



**Fig. 3.** LTD framework.

Fig. 3 shows the fundamental elements of an LTD and their interrelationships. These eight elements are not fixed, complete, or static; they have been selected to provide a basis for initial discussion, conceptualisation of the LTD, and systematic evaluation of the six case studies. In the following sections, the elements are defined, and associated difficulties with their implementation are briefly explored. As a complete reconceptualisation of these elements cannot be achieved within the framework of this paper, the evaluation of the potential of systems thinking to facilitate their implementation and the challenges that might hinder the transference to a tourism destination context are focused on. The suggested framework is based on experiences with organisational learning (Argyris, 1993; Argyris & Schön, 1978; Schwandt & Marquardt, 2000), implementation of LOs (Pedler & Aspinwall, 1998; Senge et al., 1994, 1999), and the learning region paradigm (Boekema et al., 2000).

As shown in Fig. 3 all the elements are highly interlinked; promotion, implementation, and/or maintenance of one will have a positive effect on another. Some of the elements, such as information systems and co-operation, are well established in some tourism destinations but their implementation in isolation does not realise all the benefits of an LTD.

### 2.2.1. Shared vision and goals

To initiate collective learning within an organisation or community, the key stakeholders need to be coherent and stable in their sense of identity, purpose, and vision (Senge et al., 1999). Although tourism researchers and planners acknowledge the importance of creating a shared vision for tourism planning (Crouch & Ritchie, 1999; Jamal & Getz, 1995), it has not been identified through empirical research what conditions or tools are necessary for advancing a shared vision in a tourism destination

with diverse stakeholder mix. Many tourism destinations are lacking a sense of corporate identity and therefore have difficulties in reaching a common goal or vision. The LTD creates a corporate identity by developing and anchoring a shared vision based on regular stakeholder workshops and the publication and continuous promotion of common goals. Systems thinking assists in this development by showing that tourism stakeholders with competing personal goals are interconnected, influenced by the same exogenous factors, and dependent on the same resources. This creates the strong motivation needed for commitment to a shared vision and collective goals.

The definition of collective goals is a dynamic process with goals being regularly refined and adapted based on new system understanding and research findings. Similarly, the shared vision will change during the life cycle of the destination: destinations in the early growth stage are concerned with developing appropriate infrastructure and defining principal market directions, and the mature or stagnated destinations are aiming to develop strategies to maintain old or explore new market segments.

Although the shared vision is vital for direction setting, it has to be complemented by concrete strategies and measurable goals in order to maintain the initial commitment of the stakeholders.

While efforts to implement shared vision and goals have been reported from developing countries, such as Brazil (Medeiros de Araujo & Bramwell, 2002), the associated political uncertainty, lack of credibility, and discrimination have been shown to be major hindrances. To circumvent these impediments, a different approach for collaboration, networking, and information exchange is required. Therefore this paper focuses on the development of an LTD in developed countries.

#### *2.2.2. Information system*

Providing information where it is needed in a tourism destination with small businesses and enterprises, development sites, and activities is a complex problem. To improve the information flow, the information system not only has to allow the automatic dissemination of information collected and processed in the bodies of knowledge (e.g. universities, environmental agencies, NGOs), but the feedback loops between the areas of reflection and application (e.g. tourism businesses, planners, developers, tourists) have to be well established, encouraging a continuous learning cycle (Fig. 2).

Initial frameworks for developing and implementing tourism-industry supported destination marketing information systems have been developed. Ritchie and Ritchie's (2002) framework contains the major components of an LTD information system, such as information needs assessment, inventory of information sources, and specification of key research tasks, but does not address specific tools that facilitate the implementation of these components. The use of systems thinking tools in such an information system has been shown to be effective in improving the evaluation, processing, reflection, and delivering of information within an organisation (Senge et al., 1999; Sterman, 2000; van den Bergh, 1991).

#### *2.2.3. Continuous learning and co-operative research*

The provision of resources and possibilities for further learning and development to all stakeholders is essential in an LTD. In particular universities, local councils, tourism organisations, and NGOs are challenged to continuously enhance and adapt their schooling and educational programs to the often rapidly changing demands of a tourism destination. Continuously adapting and enhancing education programs serves a dual function in that people are encouraged to challenge old beliefs and mental models, by expressing their opinions in surveys, reading about developments in local newspapers, etc.

At present, however, there is a poor research basis to underpin tourism development, as well as a weak research culture attributed amongst others to an existing gulf between research providers and users (De Lacy & Boyd, 2000). In Australia efforts have been made to overcome these barriers by applying the Australian Cooperative Research

Centre (CRC) model for cross-sectoral research collaboration to enhance the sustainability of tourism (De Lacy & Boyd, 2000). The model emphasises the importance of collaborative arrangements to maximise the benefits of research through an enhanced process of utilisation, commercialization, and technology transfer. It also has a strong education component with a focus on producing graduates with skills relevant to industry needs. While to date the model is proving successful, with increasing participation from industry and researchers, De Lacy and Boyd (2000) also argue that the success of the partnership will require the gap to be bridged between industry and research, different research disciplines, different industry sectors, and competing ideologies. De Lacy and Boyd (2000), however, do not provide any guidance on how this can be achieved.

Systems thinking approaches can assist in overcoming these different cultures and barriers, as they enhance learning at all three levels: individual, organisational, and communal (Fig. 1). By providing a better understanding for the systems structure, SDM has the potential to identify areas where research is needed, and to improve the understanding for the necessity of research investment.

Recent tourist studies also discuss the value of studying best practices of other destinations in the framework of national or international co-operation projects (Yuksel & Yuksel, 2005). Yuksel and Yuksel (2005) demonstrate by example that management and co-ordination of these study relations is a complex task. There are a number of critical factors to overcome, such as limited resources, limited information sharing, language and cultural barriers, institutional jealousy, and mistrust (Yuksel & Yuksel, 2005). While these limiting factors exist within the destination, they are more difficult to overcome between destinations as a shared vision and collective goals are difficult to establish. SDM could be a valuable tool for evaluating and demonstrating the similarities and differences of the collaborating LTDs, and thus highlighting priority areas for information exchange.

#### *2.2.4. Co-operation (informal collaboration)*

Interorganisational relations (IOR) (e.g. co-ordination, collaboration, co-operation, partnerships) have been promoted and researched over the last two decades, in order to overcome problems caused by the diffuse and fragmented nature of tourism (Bramwell & Lane, 2000; Jamal & Getz, 1995). In this paper the term “co-operation” is used to denote informal IOR, while “co-ordination” denotes formal institutionalised relationships (Hall, 2000).

Jamal and Getz (1995) agree that the establishment of a corporate identity and collective goals encourages co-operation as stakeholders recognise the potential advantages of working together. The value of SDM to foster the co-operative culture of a tourism destination has not yet been researched. The evaluation of systemic interconnections, however, will assist tourism stakeholders to recognise inherent dependencies and understand that real change can only be achieved by co-operation. Systems thinking shows that there are no “enemies”, but that problems are usually created within the system by lack of information inter-change and understanding. Thus it is a tool that aids in overcoming difficulties associated with provision of collaboration among varied stakeholders with different aims, goals, and preferences as is often observed in tourism literature (Bramwell & Lane, 2000).

#### *2.2.5. Co-ordination (formal collaboration)*

The importance of co-ordination, defined here as formal IOR (e.g. networks and partnerships), to maintain and increase the competitiveness and sustainability of tourism destinations and the pathways for implementation have been discussed extensively in the literature (Bramwell & Lane, 2000; Lazzarotti & Petrillo, 2006; Pavlovich, 2003; Saxena, 2005). Systems thinking tools can be used in workshops organised by or within networks and partnerships to analyse complex problems and to enhance systemic awareness. A strengthened systemic awareness will increase the willingness of people to

get and stay involved in networks even through periods of crisis and increased competition, both of which are embraced as opportunities rather than threats. System dynamics allows the evaluation of system behavioural patterns, such as market fluctuations, and the identification of how networking structures positively influence and stabilise the tourism system in the long-term.

#### *2.2.6. Cultural exchange*

The possibility for creative expression of beliefs, culture, and spirituality plays a major role in LOs and learning regions as it forms the basis for mutual acceptance of different worldviews and belief systems. Understanding these differences not only enhances the dialogue between individuals and within the community, but is necessary for the explanation of mental models and resulting behaviour patterns. In tourism destinations, the conservation of cultural diversity is a priority as tourism may have a negative impact on the local cultures and traditions that form part of the region's attraction (Dyer, Aberdeen, & Schuler, 2003; Ryan & Aicken, 2005). Hence the intention of the LTD is not the alignment of different beliefs, but the acknowledgement, appreciation, and preservation of diversity as this leads to a more complete and resilient world view.

The improvement of dialogue between people, organisations, and cultures is a central theme in the systems thinking disciplines (Senge, 1990) and is necessary for organisational learning. Systems thinking tools provide a common language that assists in communicating differences in beliefs, culture, and spirituality.

#### *2.2.7. Participative planning and decision making*

The necessity of local participation in decision making, and the problems and challenges of achieving this in tourism destinations are well documented: Bramwell and Sharman (1999), Bramwell and Lane (2000), and Vernon, Essex, Pinder, and Curry (2005). Bramwell and Sharman (1999) identify three main issues which affect stakeholder participation in tourism planning: representative representation of all relevant stakeholder groups, intensity of the participation, and degree to which consensus emerges among stakeholders. In particular, inequalities in the power of different stakeholder groups and individuals will determine the degree of interaction and influence on the decision-making process (Bramwell & Sharman, 1999). The LTD approach aims to reduce these power imbalances and facilitate participative strategic planning by fostering the understanding of complex coherences through means of simulation models as tools for policy testing and scenario analysis (van den Belt, 2004; van den Bergh, 1991).

Decision-makers in tourism destinations often feel uncomfortable or fearful with the recognition that the future of a tourism destination is unpredictable. Common reactions to this fear are secretiveness and a greater need to control and to lead by mandate (Dörner, 2005). Increased understanding of the system behaviour, which can be achieved through the use of SDM, leads to more acceptance of uncertainties, which promotes communication. In LTDs, planners and developers reveal their development strategies and encourage other tourism stakeholders to participate actively in decision making, e.g. by the open discussion of issues of concern. Indeed, providing transparency in planning issues counteracts the often observed initial resistance to change and any defensiveness against decisions, such as the institution of additional fees or new management strategies.

#### *2.2.8. Adaptive management*

AM is a central element of an LTD; it is designed to test hypotheses about the behaviour of complex and dynamic systems (Walters, 1986). AM has been promoted and tested worldwide primarily for ecological and political systems and in particular for agriculture, fisheries, and forest management (Holling, 1978; Schreiber, Bearlin, Nicol, & Todd, 2004). Holling (1978) first implemented AM in a tourism village in the Austrian Alps and this is one of the case studies evaluated in Section 3. However, since



then little attempt has been made to test and further adapt the concept to a tourism context (Reed, 2000). Reed (2000) does evaluate the principal values and challenges of adaptive approaches in emerging tourism settings, but does not link AM with systems thinking and SDM and thus omits the use of a modelling framework which is central to AM (Schreiber et al., 2004; Walters, 1986). The purpose of modelling in AM is not to build realistic representations of the reality, but to explicitly describe management components and their relationships. SDM assists in the articulation of assumptions and the perceived levels and types of uncertainties (Schreiber et al., 2004). The acknowledgement of uncertainties is crucial to initiate collective learning processes.

In an LTD, policy and strategy formation must be based on continuous testing and adaptation, for example by creating and evaluating pilot projects and small-scale experiments. New information is collected continuously and system changes observed; this allows for quick and timely adaptation. The implementation of AM processes facilitates this process.

### **3. SDM case studies analysed in the context of the LTD**

SDM has been used on many different scales in the last three decades to assess sustainability issues in tourism destinations, but never directly as a means of establishing an LTD. The main focus has been on assessing planning and development options in relation to long-term sustainability implications and hence the potential of SDM as a tool for implementing and fostering continuous learning processes has not been fully utilised.

In the following six case studies, the use of SDM for tourism destinations has been critically analysed with respect to signs of LTD implementation. In addition, an evaluation of how SDM could have been applied more efficiently to promote lasting collective learning, participation, and collaboration has been made. The objective of the evaluation is to spark conceptual and practical debate of the proposal that the effectiveness of SDM as a tool for sustainability assessment may be increased through its incorporation in the foundation of the LTD.

The case studies are:

- (1) Obergurgl/Austria (1974–1984): A model project for Alpine ski resorts in Austria used to demonstrate environmental assessment and management (Holling, 1978; Moser & Moser, 1986; Moser & Peterson, 1981, 1988);
- (2) Sporades Islands/Greece (1990–1993): An experimental test case that assessed the impacts of different policy options on the islands (Giaoutzi & Nijkamp, 1993; van den Bergh, 1991);
- (3) Bali/Indonesia (1998–2000): A study (Ph.D. dissertation) undertaken to establish a framework for strategic sustainable development planning at a regional level (Wiranatha, 2001; Wiranatha & Smith, 2000);
- (4) Douglas Shire/Australia (1998–2004): A tourism re-search project that tested management policies in a coastal and rainforest area that provides a gateway to reef tourism (Walker et al., 1999);
- (5) Ping Ding/Taiwan (2003–2005): A sensitivity model (Vester, 2002; Vester & von Hesler, 1982) used as a planning tool for development in a small tourism village (Chan & Huang, 2004); and
- (6) Guilin/Mainland China (1998–2000): A systems model developed to examine reasons and possible mitigation strategies for the declining tourism industry in an ageing tourism region (Honggang & Jigang, 2000).

The principal goal of these case studies was to aid decision making for strategic planning issues and thus maintain or improve the sustainability of the tourism destination. As these tourism destinations are all located in ecologically fragile areas, the projects all put a strong emphasis on environmental protection and, with the exception of Guilin, the assessment of environmental impacts. Table 1 provides a summary for each project

of the problems, the study aims, and the participating stakeholders in the data collection, modelling, and assessment process.

Although the main focus of the projects was policy testing and scenario analysis, and not the implementation of an LTD, they allowed the exploration of the influences and potential of SDM and systems thinking on the capacity of involved stakeholders for consensus building, dialogue, and changes in thinking. Literature reviews and interviews with participants, where existing, allowed each modelling process to be analysed with respect to whether it resulted in, or showed the potential to foster, the fundamental LTD elements described in Section 2. Table 2 provides a summary of the evaluation results.

TABLE 1. Case studies of SDMs for tourism destinations

	Obergurgl	Sporades Islands	Bali	Douglas Shire	Ping Ding	Guilin
<b>1. Problem definition</b>						
Ecologically sensitive region	√	√	√	√	√	√
Environmental degradation	√	√	√	√	√	√
Loss of social heritage	√	√	√	–	√	–
Expected economic decline	√	√	√	√	√	√
Dependency on tourism	√	√	√	√	√	–
<b>2. Study aims</b>						
Economic sustainability/stability	√	√	√	√	√	(√) <sup>a</sup>
Avoid environmental degradation	√	√	√	√	√	–
Conservation of culture	√	√	–	–	√	–
Consensus building	√	√	√	√	√	–
Define research needs	√	√	–	√	–	√
Implementation of control measures	√	√	√	√	√	√
<b>3. Participating stakeholders</b>						
Tourism organisations	√	√	√	√	√	√
Regional planners/developers	√	√	–	√	√	√
National government	√	√	–	–	–	√
International organisations	√	√	–	–	–	√
<b>Scientists</b>						
Economists	√	√	√	√	√	√
Ecologists	√	√	√	√	√	–
Sociologists	√	–	–	–	–	–

<sup>a</sup>Implicit but not expressed study aim.

The Obergurgl project is one of the best researched and documented SDM projects in tourism, and perhaps the most complete sustainability survey ever envisaged (Farrell & Twining-Ward, 2005). It is an excellent show case for how a project that originally started with the intention to “study in an integrated fashion the daily life and future options of an alpine village which had become a tourism centre” (Moser & Moser, 1986, p. 103) initiated a collective learning process of the local community, scientists, and politicians. The SDM developed to synthesise the research conducted on the area (Holling, 1978) helped the Obergurglers to identify “quality” tourism instead of “mass” tourism as their goal, and to gain awareness of the economic, social, and environmental interdependencies that bound them to their actions (Moser & Moser, 1986). Moreover,

the Obergurgl project has been studied by many other communities and the results used to inspire lasting networking structures. The residents of Obergurgl were actively involved in the project from the beginning of the investigation, and with the building of the SDM “began a process of teaching and learning between researchers and Obergurglers” (Moser & Moser, 1986, p. 104). Although there is great value in the results obtained in the Obergurgl study, the direct transference of the lessons learnt to larger and more complex tourism destinations is limited. Obergurgl, with its small community of originally 80 farming families, has been described as a microcosm ideal for research (Holling, 1978) as it provides only a few system elements that can be studied in great detail and therefore limits complexity. Most tourism destinations, however, are much more complex with a greater diversity of mental models and competing goals. This means it will be more difficult to achieve consensus for a shared vision and active and balanced participation of all key stakeholder groups than was observed in Obergurgl.

In contrast to the Obergurgl case study, the considerably more complex Bali project analysed the whole country that, while dependent largely on tourism, also was influenced by other industries, such as fisheries, agriculture, and trade. Funding of the study was also different: the Obergurgl project was well funded over a 12-year period whereas the Bali Project only received limited funding over a period of 3 years and participation of key stakeholders was restricted. Nevertheless the workshops conducted for the Bali model development involved stakeholders from various backgrounds and exposed a wide range of concerns and issues relating to tourism management. The stakeholders involved in the model building processes developed an understanding of systems thinking (Wiranatha, 2001) which finally led to “significant changes in thinking” (Wiranatha, 2001, p. 361) and consensus building between initially competing development sectors. Although the project did not lead to lasting community learning and networking structures, it substantiates the potential of systems thinking for harmonising conflict between stakeholders and initiating collective learning.

The Sporades Island project is an example of a scientist-dominated study; it was commissioned by the Greek Ministry of the Environment and the European Commission and hence had a strong focus on ecologically sustainable, economic development of the region and implementation of information systems and environmental assessment tools (Giaoutzi & Nijkamp, 1993). Tourism is the main industry of the study area which consists of around 277 km<sup>2</sup> and depends highly on its natural resources, such as beaches, forests, maquis areas, and marine environments. The SDM was useful for consensus building about study goals, and in particular the identification of priority areas for further data collection and research (e.g. water quality, marine ecology, and natural ecology). The study, however, was lacking a superordinate shared vision that could have created the commitment of the regional government, industry, and other tourism stakeholders required to implement the structural transformations suggested by the researchers, and needed to achieve sustainability. This project demonstrates that the best assessment has little effect without the active participation of all tourism stakeholders and their willingness to change and engage in collective and community learning. Giaoutzi and Nijkamp (1993, p. 289) acknowledged the necessity of developing education and training programs, “focussing on resource management, tourist policy, small- and medium-sized entrepreneurship and the like”, in order to increase the environmental awareness of private and public policy makers and their capacity for consensus building in the context of conflicting island interests. Furthermore, the scientists emphasised that sustainability assessment studies that try to include environmental, social, and economic issues are expensive, time intensive, and the reliability of long-term predictions is far from adequate (van den Bergh, 1991). This confirms the necessity of AM approaches.

The Douglas Shire model emerged from a joint project between scientists and modelling experts from CSIRO Wildlife and Ecology, and the tourism industry in Douglas Shire. The aim was to develop a framework for evaluating the benefits and

impacts of nature-based tourism and the policy options for managing tourism activity and development (Walker et al., 1999). The scientists observed that the SDM used in combination with the LO concept was effective in achieving team learning and harnessing the creative power of tourism stakeholders. Through a series of workshops and interviews, the study enhanced the participants' understanding of the tourism system and its complex interdependencies and this leads to improved dialogue. The SDM also helped tourism stakeholders explore differences and commonalities between mental models, thus facilitating consensus building. The project showed, similar to the Obergurgl case study, the importance of stakeholder involvement in the implementation process, in particular in the course of goal formulation and data collection.

The Ping Ding model was designed for another small village tourism destination with around 2000 residents, but as opposed to the Obergurgl project, little resources were allocated for data collection and in depth impact assessments. The main emphasis of the study was understanding principal system interrelations. The researchers highlighted the potential of SDM to foster participatory planning and decision making and hence the model building process focussed on communication, co-operation, and compromise among the involved stakeholders (Chan & Huang, 2004). Although these participatory processes were de-scribed as being very time consuming, they proved to have a remarkable effect as a new culture of group learning was established and a deep sense of community, identified as "a critical element of a sustainable community" (Chan & Huang, 2004, p. 135), was embedded. Even though the project was undertaken with comparatively small financial resources, it shows the positive potential of systems thinking for implementing an LTD.

Important lessons learnt from the Guilin project are that tourism destinations, even with initially high tourism attractiveness and good marketing structures and accessibility, can be unsustainable if management is not built on system understanding and collaboration of stakeholders.

TABLE 2. Evaluation of LTD implementation

	Obergurgl	Sporades Islands	Bali	Douglas Shire	Ping Ding	Guilin
<i>The SDM led to/improved</i>						
Consensus building	Yes	Partially	Yes	Yes	Yes	No
Dialogue	Yes	Partially	Yes	Yes	Yes	No
Understanding of system	Yes	Yes	Yes	Yes	Yes	Yes
Acceptance of uncertainties	Yes	Yes	Yes	Yes	Yes	No
Changes in thinking	Yes	Partially	Yes	Yes	Yes	Partially
<i>The SDM showed potential to foster the implementation of LTD elements</i>						
Shared vision and goals	Yes	No	Partially	Yes	Yes	No
Information system	Yes	Yes	Partially	Yes	Partially	Partially
Continuous learning	Yes	Partially	No	Yes	Partially	Partially
Co-operation	Yes	Partially	Yes	Yes	Yes	Yes
Co-ordination	Yes	Partially	No	Yes	Partially	No
Cultural exchange	Yes	No	Partially	Partially	Yes	No
Participative planning	Yes	Partially	Yes	Yes	Yes	No
Adaptive management	Yes	Yes	Partially	Yes	Yes	No

The study conducted by tourism researchers of the local university for the Guilin Tourism Bureau analysed the reasons for the rapid decline of the tourism market in a formerly popular tourism region (Honggang & Jigang, 2000). The SDM showed that the declining market was caused by internal forces (e.g. unaddressed negative environmental impacts, low quality resorts, inadequate facilities) and not by exogenous factors, such as the South-east Asian financial crisis (Honggang & Jigang, 2000). Honggang and Jigang (2000) showed with their model that the policies and management strategies adopted to address the problem had lead to a rapid worsening of the situation.

Unfortunately, the researchers did not focus on participatory modelling approaches and therefore did not use the potential of systems thinking for consensus building and collective learning. To improve the situation and find more effective intervention policies and management strategies, a more collaborative approach was needed. Honggang and Jigang (2000) identified five key stakeholders required for this process: tourists, travel agencies and other service providers, tourism site developers, illegal operators, and public management institutions. The implementation of an LTD based on a formulated shared vision would have led to improvements in all the addressed internal structural problems, even those known to be resistant to change.

#### **4. Discussion**

The most important finding of this study is that SDM has the potential to foster learning in a tourism destination in order to improve sustainability. The review of the six case studies demonstrated how SDM initiated valuable collaboration and collective learning processes. Unfortunately, as the previous research did not acknowledge or investigate the importance of the incorporation of SDM in the foundation of an LTD, these processes appear to have halted as soon as the purpose of the modelling or scenario testing had been achieved. This substantiates that lasting collective learning in a tourism destination can only be achieved if the organisational structure has been provided to foster learning processes, as would be within an LTD.

The review also showed that the construction of extensive simulation models does not guarantee the initiation of collective learning nor an improvement in the destination. It has been frequently argued that models have to be based on participatory approaches and embedded in a learning concept where the results of the models can be tested in reality (Holling, 1978; van den Belt, 2004). Only through continuous progress evaluation and improvement of information structures and data bases will models allow accurate predictions. However, no practical framework on how this could be achieved in tourism destinations has been proposed and discussed. This study clearly illuminates this deficiency and thus demonstrates the necessity for extensive empirical research.

The active participation of all tourism key stakeholders in the modelling and learning process proved to be fundamental to success. The challenges associated with this, identifying and enlisting stakeholders, have been extensively discussed (Bramwell & Lane, 2000; Jamal & Getz, 1995; Reed, 1997). The case studies analysed here show that SDM enhances the willingness of tourism stakeholders to actively engage as they experience them-selves as an important part of the system (Moser & Peterson, 1981). van den Belt (2004) observed that the possibility of analysing and understanding differing mental models could foster the commitment for continuous participation. It is suggested that this potential can be better sustained in the context of an LTD, as it provides the organisational basis for the implementation of gained knowledge and system understanding.

Investment in extensive scientific data collection, as seen in the Sporades Island project, in order to improve the accuracy of the model does not necessarily lead to improved tourism management. If the strategies suggested by the researchers are not collectively understood or accepted by important decision-makers because of personal interests or resistance to change they will not be effectively implemented. The proposed LTD framework therefore includes appropriate information systems as an important element. And thereby it acknowledges that in order to avoid resistance to change in tourism destinations it is essential to balance learning processes such that all tourism stakeholders have access to appropriate information rather than being dominated by scientific research efforts. This, however, can be a challenge in highly fragmented destinations, and where organisational and networking structures are still evolving. Initial efforts to overcome these barriers are promising, for example in the framework of the CRC programme, but further research will be necessary to advance the current models (De Lacy & Boyd, 2000).

Collaborative and participative tourism planning is time consuming and costly, and stakeholders are more willing to invest time and effort if they perceive benefits from their engagement. Naturally those who will gain from the expansion of tourism are more likely to stay involved and be more proficient in selling themselves and their ideas (Taylor, 1995). Although systems thinking and SDM are valuable tools to foster communication and consensus building amongst stakeholders with competing goals, resistance of conventional power holders to allow others to partake in key decisions still needs to be expected (Reed, 1997). The incorporation of systems thinking into decision making is a learning process that needs to be fostered continuously with a strong commitment in order to survive periods of collaboration fatigue. The study showed that tourism destinations that implemented all eight elements of an LTD, such as Oberurgl, have a better chance of remaining committed than destinations that show only partial implementation of the framework and are lacking personal and community interrelations.

Strategies for the implementation and maintenance of an LTD are dependent on the life cycle of the destination. Emergent destinations and those in the early development stage often lack a shared vision and clear development strategies. In the emerging tourism village, Oberurgl, the initial realisation of stakeholder workshops, organised and facilitated by an external convener, allowed the identification of hopes, threats, and mental models. This leads to a relatively crude and simple SDM which initiated discussion and challenged the differing mental models of the stakeholders. This initial momentum can be the first step in the establishment of an LTD providing both fostered contact and identification of the potential for co-operation and information exchange. However, although the Oberurgl project followed the framework for an LTD, this was not recognised as an important factor for the success of this project, and thus the opportunity for on-going sustain-ability was diminished. Emergent tourism destinations must understand the connection between the effectiveness of SDM and the implementation of the LTD elements for this opportunity to be fully realised.

In contrast, mature tourism destinations have well established and less flexible structures, therefore LTD elements need to be incorporated into existing structures. IOR are often driven and dominated by competition, power relations, and individual goals rather than a shared vision. SDM can assist in the process by evaluating and communicating development options and exposing power struggles to public scrutiny.

The eight elements of an LTD introduced in Section 2 are meant to initiate discussion; it is acknowledged that they do not necessarily provide a complete basis for the instigation of organisational learning in a tourism destination. Each characteristic raises more questions, especially with respect to methods of application; most of these questions are yet to be answered and/or researched. However, this initial set of elements indicates a practical direction that brings tourism further along the path to sustainability than current methods that look for predict-ability and resist change instead of accepting uncertainty and learning to improve resiliency.

## **5. Conclusions**

The study presented in this paper emphasises the need for implementation of an LTD in order to advance sustainable tourism development. It also highlights the potential of systems thinking approaches, in particular SDM, to implement and foster collective learning processes. An LTD framework, containing eight fundamental elements, was developed to reduce the complexity of the task of applying LO concepts to a tourism destination. The framework as presented is not a finished concept but rather a “learning” concept that needs to be tested, revised, and adapted through practical studies and application. It provides an initial basis for discussion and development. As a beginning to the necessary development, the frame-work was used to review and critically discuss six case studies.

The contribution of this study to the current body of theory on sustainable tourism and destination management is four-fold. Firstly, it is noted that current tourism research has not incorporated theories of organisational learning and LO on a tourism destination level. This is surprising as international organisations, such as OECD and UNESCO, have promoted the implementation of these concepts at regional levels in order to achieve industrial sustainability in the face of global change. Tourism destinations are also affected by global change, perhaps to an even greater degree, and therefore need to develop adaptiveness and flexibility in order to maintain competitive capacity within the context of long-term triple bottom line (TBL) sustainability. Thus this study encourages the practical development of theory on LTD in order to meet this challenge.

Secondly, it is argued that TBL tourism sustainability cannot be achieved by basing tourism planning on long-term predictions about the possible impacts of new developments, policies, and strategies. Accurate predictions in complex and dynamic systems such as tourism destinations are impossible to make; AM, using tools that acknowledge uncertainty and allow for collective learning processes, is required. Sustainability assessment in tourism has been predominately based on predictions that do not acknowledge those factors that are either unknown or not systemically understood. By focussing on prediction rather than learning and adaptiveness, tourism managers are unlikely to realise the necessity for implementing change-resilient system elements such as infrastructure, and product diversification. In addition, valuable opportunities for beneficial change of strategies or policies are more likely to be missed.

Thirdly, the potential of SDM as a tool to enhance collective learning and to implement an LTD is substantiated on the basis of the case study review. Despite the fact that SDM was used in these projects for scenario testing and policy analysis alone, the results revealed that the model building process initiated the implementation of LTD elements. However, this was not recognised as an important project goal and therefore the LTD was not further developed. This meant that the influence of organisational learning on the sustainable development of the destinations could not be evaluated. Experiences in other industries show that SDM enhances organisational learning by allowing a better understanding of the system and the interconnectedness of stakeholder goals and actions (Senge et al., 1994). In addition, systems approaches uncover the barriers to collaboration and change (Gunderson, Holling, & Light, 1995) and aid in the development of strategies to overcome these hindrances.

Fourthly, the results of the analysis suggest that the effectiveness of SDM as a tool for sustainability assessment may be greatly increased through incorporation in the foundation of an LTD. Good models are those that represent the mental models of all tourism stakeholders and that are based on the knowledge of how system elements interact and how they influence each other. The LTD provides a learning environment that allows the study of these interconnections and influences. This knowledge can be used to increase the efficiency of data collection which in turn improves the accuracy of the predictive quality of the models. This finding has implications beyond tourism, in that it shows that the effectiveness of SDM as a tool for regional sustainability assessment can be improved by anchoring the SDM in a learning region approach.

In summary, the implementation of an LTD is essential to improve the capacity of the industry to take more responsibility for sustainable development on a long-term basis. This report provides an initial platform from which to conduct further research.

### **Acknowledgement**

This research is an outcome of a project funded by the Sustainable Tourism Cooperative Research Centre, established by the Australian Commonwealth Government.

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