**TOURISM DYNAMICS AND SUSTAINABLE TOURISM DEVELOPMENT
- PRINCIPLES AND IMPLICATIONS IN SOUTHEAST ASIA**

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ABBREVIATION

APEC	Asia Pacific Economic Cooperation
BOD	Biochemical Oxygen Demand
DOE	Department of Environment
GDP	Gross Domestic Product
HSO	Hai Phong Statistics Office
IUCN	International Union for the Conservation of Nature
MOCAT	Ministry of Culture, Arts and Tourisms
MPN	Most Probable Number
NESDB	National Economic and Social Development Board
PDC	Penang Development Corporation
PSO	Phuket Statistics Bureau
PBA	Penang Water Authority (Pihak Berkuasar Air)
TAT	Tourism Authority of Thailand
TDH	Tourism Department of Haiphong, Vietnam
TWRD	Thai Wah Resorts Development
UN	United Nations
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNIDO	United Nations Industrial Development Organization
VNAT	Vietnam National Administration of Tourism
WCED	World Commission on Environment and Development
WTO	World Tourism Organization
WTTC	World Travel and Tourism Council
WWF	World Wide Fund for Nature (formerly named World Wildlife Fund)

ABSTRACT

Sustainable development in general and sustainable tourism development in particular have emerged as the first priority in the development agendas of many developing countries. Though there is much literature on sustainable development, little work has been done to test and operationalize the theory, especially in Southeast Asia. Lack of well-established theoretical frameworks as well as empirical models for sustainable tourism planning and management are commonly listed among major issues in need of further research. In addition, there is controversy about whether sustainable tourism is just an idealistic model and problems relating to evaluation.

The purpose of this study is therefore to explore how sustainable tourism principles can be operationalized and incorporated into planning and monitoring practices. It is hypothesized that *ad hoc* development does not result in sustainable tourism. Laguna Phuket was used as an example of an integrated resort to calibrate the proposed evaluation framework, which was tested against three *ad hoc* beach resorts - Patong, Batu Ferringhi and Doson.

Laguna Phuket integrated beach resort offers strong evidence that sustainable tourism is a practical, not a utopian, model. An integrated planning and central management approach does help to solve the problems of uncontrolled development. This is attributed to the establishment of networking and enhancement of business partnerships within the resort and with local communities. In comparison, the *ad hoc* beach resorts display a lack of sustainability with a decline in quality of the physical environment.

The results of this research support the hypothesis. While economic sustainability appears to be achievable in most of the *ad hoc* cases, ecological and social sustainability is still wanting. More problems are exposed with regard to resource use, environmental management and local involvement in development in these cases. The competitiveness and synergy of development in the resorts as a whole have been weakened due to lack of proper tourism planning and partnerships among stakeholders.

Though the business sector is aware of sustainable tourism principles, it finds it hard to accommodate these in the tourism business planning and development process. The introduction of sustainable tourism practices seems to be of limited interest, and the extrinsic value of sustainability has not been widely recognized. Many tourism operators neither care about investment in sustainable tourism development nor operationalize sustainable tourism principles in their daily businesses. This is attributed to poor infrastructure, weak enforcement of regulations and lack of government incentive policies on environmental conservation. The form of development precipitates movement out of a traditional pattern to fast growth and leads to stronger linkages with the local economy, but also results in a loss of local control. The remedy costs in *ad hoc* resort development seem to be beyond the financial capacity of individual properties, which suggests that cooperation among them is the only solution for current environmental problems.

The conclusion is that integrated planning for tourism development is critical at national and regional levels. Policy empowerment, technical assistance and partnership between the private and state sectors are also essential for the implementation of an overall development plan at the site level. Provided these are in place, then sustainability becomes a realistic goal and progress towards its realization can be effectively evaluated.

CHAPTER I INTRODUCTION

1.1 Background

Sustainable development¹ has emerged as a key issue in the development agenda for tourism of many countries. The increasing concerns about tourism and its role in sustainable development become more salient in the context of strategic development in developing countries. The paradox in development between balance of payment and economic dependency, between long-term and short-term benefits, between fast economic growth resulting in better quality of life and ecological well-being has awoken a profound interest in seeking solutions to sustainable development. “Achieving sustainable development is seen by many to be the critical challenge of the next decade. Tourism, as the world’s largest industry, can play a significant role” (Dearden, 1993: 165).

It is evident that tourism has become the largest industry in the world economy during the last decade. Tourism has contributed to economic development in many countries through their balance of payments, foreign exchange earnings, job creation and income generation (Mathieson and Wall, 1982, Kaul, 1985, Smith, 1989). It provides 10.7% of world GDP and employs 10.5% of the global workforce (WTTC, 1997). In the East Asia and the Pacific region, tourism is viewed as the most dynamic with a 7.9% growth of tourist arrivals and 13% growth of tourism receipts in 1996 over 1995, compared to world averages of 4.5% and 7.6%, respectively (WTO, 1997d). Many governments of developing countries have used tourism as a catalyst for the

¹ The definition of sustainable development is discussed in Chapter II

development of other economic sectors such as agriculture, fishery, manufacturing etc. Tourism, if well-managed, can help conserve cultural and historic heritage and protect natural environments. Tourism can also enrich people's lives (Gunn, 1994). Kaul (1985) described tourism as: industry without smoke; education without classrooms; integration without legislation; diplomacy without formality.

In contrast to these benefits, tourism has been criticized as a non-productive industry which ties up scarce capital, encourages wasteful land use and degrades natural resources (Kaul, 1985). The loss of natural landscape, real property, political and economic autonomy, and the importation of disruptive social values are often listed as negative effects from tourism development (Marshall and Wall, 1982; Lea, 1988; Freitag, 1994; Smith, 1989 and 1994). These are driving tourism less sustainable. Mathieson and Wall (1982: 37) state that "Tourism is often welcomed as an industry bringing desperately needed foreign exchange, employment, and a modern way of life". To many others, tourism may cause destruction of traditional lifestyles, neo-colonialist relationships of exploitation, over-dependence upon an unrealistic, single industry and inflation (Schneider, 1976). The notion is that economic and social cultural dimensions of tourism development have both positive and negative effects. The economic benefit and improvement of infrastructure due to tourism development may change the social fabric and lifestyles of local people. This is especially true for the young generation. Moreover, in tourism the interaction between people from different cultures usually induces changes in social and cultural values. This does not always occur in a positive way and may create conflicts among interest groups. Khan (1997: 989) noted that "Mass tourism inevitably has an impact on the value system, individual behavior, family relationships, moral conduct, creative expression,

traditional ceremonies, and community organizations, as well as destroying the socio-cultural framework of the host country as a whole.” This raises the question of the preservation of local social cultural norms and values to avoid the loss of local uniqueness as an attraction for tourists. In other words, conflicts in tourism development appear not only in resource allocation, but also in cultural settings and the socialization process of development (Bui and Smith, 1997).

The pros and cons of tourism development result in endless arguments on how the tourism industry can be sustained, and its roles in sustainable development. As mentioned above, while the contribution of tourism as an agent of development in the Third World is widely recognized, it is also condemned as a cause of economic dependency on outside economies either at international level or national level. Likewise, economic and socio-cultural disparity, diversity and integrity are other concerns in sustainable tourism development². High dependency on outside forces often results in high disparity and low integrity. This causality becomes a threat to sustainable tourism. Local communities may lose their control and then opportunities to participate in and gain from tourism development. The disparity is exposed vertically (between rich and poor), horizontally (between economic sectors of the economy and within the tourism industry itself) and spatially (between core and periphery). As a consequence, the integrity which is mainly expressed in economically functional linkages or integrity of local economy and environmentally functional integrity may be disrupted. It is believed that sustainable tourism is the way to resolve these stresses in development, though sustainable tourism may still be imperfect in practice. This is due to lack of congruence between research and

² The definition of sustainable tourism is discussed in Chapter III

development, between business and the community, and within components of the industry itself. A plethora of tourism research has focused on the economics and marketing of tourism, rather than social and environmental interactions and effects (Smith, 1991). There needs to be a greater effort to understand, plan and manage tourism systems to achieve economical, social, cultural and environmental sustainability.

1.2 Research Issues

Holistically, the tourism industry is defined as a dynamic but delicate system, which consists of many functional and multi-sectoral components. It evolves and changes over time. The emphasis on sustainable tourism development should be put into the context of sustainable development, which needs suitable planning and development approaches to bring about and maintain the balance for sustainable development³. Lessons learned from past experiences of development suggest that the extent to which sustainable development can be obtained is largely dependent on how well it is planned and managed. This is especially true for tourism development as an integrated part of the economy as a whole. Much research has been done to develop principles and frameworks of sustainable tourism planning in the last few decades (Baud-Bovy and Lawson, 1998; Rose, 1984; Murphy, 1985; Lang, 1988; Gunn, 1988 and 1994; Inskeep, 1991; David, 1994; Smith, 1994; Reed, 1997).

The discussion on tourism planning and sustainable tourism leads to concerns with several common approaches of tourism development; namely, *ad hoc*, *integrated and*

³ Discussed further in Chapter II

comprehensive development⁴. While *ad hoc* development indicates the common situation in which tourism is developed and expanded on the “project-by-project” basis, the *integrated* development refers to the large-scale and well-planned tourism development. The *comprehensive* development strategy incorporates the *integrated* development into planned development of a whole region, which is expected to result in more sustainable tourism development (Smith, 1996 and 1997). However, it is commonly recognized that there is a big gap between planning for, and implementation of, sustainable tourism development. When tourism planning is undertaken, it is often remedial, after much development has already taken place. Many plans never turn into reality, or are completed too late to deliver the benefit of plans. This can be viewed as an obvious reason explaining why many tourism destinations were developed on the *ad hoc* basis. Beach resort development in Southeast Asia is a notable example. Though it is argued that *ad hoc* tourism development may not be sustainable, little research has been carried out on this model of development in terms of its sustainability.

In addition, pragmatic agencies and organizations and developers may accept sustainable tourism for marketing propaganda, but perceive it as an ideal and unworkable in practice (Pigram, 1990; Hunter, 1995; Mowforth and Munt, 1998). As a consequence, to these actors, sustainable tourism is utopian and therefore likely to be a misnomer. Equally important, it is recognized that the lack of a monitoring and evaluation framework for sustainable tourism development has slowed down acceptance and implementation of sustainable tourism. It is believed that tourism is not necessarily destructive, but damage is the result of the failure of planners and

⁴ Discussed in Chapter II

managers; however there has been little evaluation of plans to see if their objectives have been achieved (Parnwell, 1993; Hitchcock, et al., 1993).

Accepting that the industry is sensitive to the action of other economic sectors that influence availability and quality of tourism products, the challenge of successfully planning and monitoring sustainable tourism is important to the future of the tourism industry. In this respect, several questions face researchers and policy makers such as: What are the key factors facilitating sustainable tourism development? How can the sustainable principles - as a management tool - be incorporated into tourism planning and implementation? Does sustainable tourism really help mitigate the issues of disparity and dependency in tourism development in particular and in regional development in general? Providing that *ad hoc* tourism development is prevailing, does it result in sustainability? What can the applicable model for evaluating and monitoring sustainability be, which can provide significant information and feedback for better progress towards sustainability? Answers to these questions are needed if tourism is to move towards a sustainable condition. Eber (1992: 35) suggested that "More primary research in both tourism-generating and receiving countries is essential in order to improve knowledge and understanding, and to test models and hypotheses for sustainable tourism".

Searching for answers, most research has focused on explaining tourism dynamics or its spatial and temporal distribution, and impacts on economic development (Milne, 1987; Ioannides, 1992; Kermath and Thomas, 1992; Oppermann, 1992 and 1993; Smith, 1992; Kreutzwiser, 1993; Freitag, 1994). Some studies were carried out to explore the possibilities of obtaining a balanced tourism system amongst its various

aspects through sustainable tourism practices (Wall, 1993; Payne, 1993; Wight, 1993). This is expected to provide a better approach of problem-avoiding rather than problem-solving. However, little research was undertaken on evaluating success, failure and sustainability of tourism plans and development (Bull, 1991). In contrast, much research has been completed to develop the theory of sustainable development in general and sustainable tourism in particular (WCED, 1987; IUCN, et al., 1991; Eber, 1992; Nelson, et al., 1993; Rees, 1994 and 1996; Hunter, 1995 and 1997; Wall, 1993 and 1997b), though little effort has been done on application of sustainability theory to the practice of tourism. Apparently, there is no operational model for evaluation of tourism development in terms of its sustainability.

Despite the extensive debate on definition of tourism sustainability over several years, a consensus is found in the tourism literature, where it is defined in terms of meeting social cultural, economic and environmental goals. However, the methodologies on monitoring and evaluation of sustainable tourism development are "...still being tried and tested, the results still uncertain (sic)" (Eber, 1992: 1). In other words, it is necessary to understand more about sustainable tourism. Does it really work? How can it be measured? Wight (1993: 55) concludes that "many of the problems or negative trends which make some ecotourism operations unsustainable related to (sic) the fact that principles fundamental to ecotourism are not being incorporated into the conception, planning, design, development, operation, or marketing of the product". The World Tourism Organization (WTO, 1985; McIntyre, 1993), and World Wide Fund for Nature (Eber, 1992) were among the first to advocate and develop the principles for sustainable tourism. Recently, Wallace and Pierce (1996) present a set of principles for evaluation of ecotourism. Even though these principles are in effect

sustainable, they are not referred to as such. In these early models no clear guidelines or appropriate indicators were provided to evaluate sustainable tourism planning and implementation at the destination level. This presents the need for more practical and applicable models for planning and monitoring of sustainable tourism.

In addition, despite the increasing importance of the tourism industry in the world economy, tourism is not discussed in the UN document on sustainable development - *Our Common Future* (WCED, 1987), the standard reference of sustainable development. According to Wall (1997b) this is due to oversight about the tourism industry. McKercher, (1993: 135) states that “The tourism industry is vulnerable to losing out in the sustainability debate for many reasons...: (L)ittle recognition that tourism is a natural resource-dependent industry; ... an invisible industry, lying out of sight and mind of most people; ... electorally weak....” This omission may suggest that it is necessary to explore whether the tenets of sustainability are appropriate for tourism. This is especially significant in pursuit of sustainable tourism in developing countries, where the growth-oriented economy may become the driving force and undermine sustainable development.

The East Asia and the Pacific region in recent years has enjoyed the highest growth rate of international tourism arrivals in the world, 9.3% in 1996. In terms of tourism receipts from international tourism, Japan, Australia, China and Indonesia garnered the highest increase in 1996, 26%, 22%, 17% and 16%, respectively (WTO, 1997e). The World Tourism Organization predicts that tourism in East Asia and the Pacific will grow by an annual average of 7.6% to the year 2010 (WTO, 1997e). The high growth rate should be a warning about its widespread social cultural and

environmental impacts, with appropriate action necessary if the tourism industry is to be sustainable. “Despite the strong new forecast, tourism growth cannot be taken for granted. ... Some sub-regions and some destinations will lose out, unless they make a better effort to attract tourism”⁵. Sustainable tourism development therefore, has received more attention not only as a priority in government development agendas, but also regarding its commercial viability. Marketing is not a panacea: it is far more necessary to develop a sustainable development strategy for the tourism industry in this region to be capable of competing in the world tourism market. However, little research on sustainable tourism in the region has been made in this regard. The phenomenon of slowing down or declining tourism arrivals and tourism receipts in many destinations in the region in recent years such as Singapore, Korea, Malaysia, Vietnam, etc. may call for more efforts to arrest this situation.

1.3 Objectives of the Study

Pursuing the intent of devising a theoretical framework for monitoring and evaluating sustainable tourism, as well as its implications for strategic tourism planning and management in different development contexts in Southeast Asian countries, this study aims to meet the following general objectives:

1. To gain an understanding of tourism dynamics and sustainable tourism practices in the Southeast Asia region
2. To identify the major factors related to the theory and practices of sustainable tourism

⁵ In WTO, 1997a

3. To evaluate major current tourism development practices in terms of its sustainability.
4. To work towards the establishment of an operational model of sustainable tourism which may be adopted for evaluation and monitoring sustainable tourism in different contexts of development.
5. To provide evidence about and suggestions for improving planning and management for sustainable tourism development.

Following on from these objectives, the research hypothesis and methods are presented and discussed in the research methodology chapter (chapter IV).

1.4 Contribution and Usefulness of the Study

As tourism has grown to become the largest industry in the world economy, the debate on tourism sustainability has drawn much more attention from researchers and practitioners. Sustainable tourism development is important for the same reasons as sustainable development. However, sustainable tourism is not discussed in the WCED Brundtland's report (WCED, 1987), which is the most referred to document associated with sustainable development. This is indicative of the lack of serious investigation and publications on the topic of sustainable tourism development. There is need to further develop the theory of sustainable tourism and its operationalization.

This study is an effort to examine if the sustainability doctrine is appropriate, applicable and achievable in the tourism industry through tourism planning and implementation, especially at the destination level. It hopefully provides a useful contribution to the continuing debate and to building up a body of knowledge on

sustainable tourism as well as developing a relevant framework for evaluation of sustainability. It is also intended to position sustainable tourism within the sustainable development paradigm. Those who wish to work on tourism sustainability may therefore benefit from a better understanding of the sustainable tourism paradigm. The holistic compilation of sustainable tourism indicators and its application and interpretation as demonstrated in this study will operationalize the theory of sustainable tourism development.

Sustainability has been described as at least three different things: a plan or strategy, a philosophy, and a product (Wall, 1997b). This study attempts to incorporate holistically the sustainable tourism model as a management tool and strategic goal of development into tourism planning and monitoring. With the emphasis on sustainability as a product, it presents a subset of sustainable tourism indicators as evaluation criteria and measures of sustainable tourism development. This is expected to be very useful and feasible for evaluating and monitoring success or failures of tourism planning and development, especially in the prevailing situation of *ad hoc* tourism development. These indicators tend to be site-specific and may vary from time to time depending on specific objectives and goals of development. Therefore, the theoretical model of sustainable tourism with evaluative indicators and empirical evidence derived from this study are expected to provide policy makers and planners as well as developers in developing countries with useful information and recommendations on tourism planning and monitoring, helping them towards the achievement of sustainable development.

In short, this study hopes to add to the theory of sustainable development by expanding the theory of sustainable tourism development. Further, this study will make a contribution by operationalizing the theory of sustainable tourism development.

1.5 Summary

This chapter has explained the objectives, contributions and usefulness of the study. It argues that there is an increasing need for establishing an operational model of sustainable tourism to promote the achievement of sustainable tourism development. While the theory of sustainable tourism has been well developed, there is a considerable gap between planning for and actually implementing sustainable tourism. Nevertheless, successful planning and monitoring of sustainable tourism are very important to the future of the tourism industry.

The next chapter will review the literature relevant to this study discussing topics such as the dynamics and typology of tourism, the theoretical base of sustainability, and tourism and sustainable development in the Third World. It will also provide an overview of the evolution of tourism planning, and the role of government in sustainable tourism.

CHAPTER II

TOURISM, DEVELOPMENT AND SUSTAINABILITY

2.1 Tourism Typology and Dynamics

Tourism is an esoteric and dynamic industry, which is multi-dimensional comprising of economic, socio-cultural, historical, psychological, international and environmental dimensions (Fridgen, 1991). A commonly quoted definition of tourism is "...the temporary movement of people to destinations outside their normal place of work and residence, the activities taken during their stay in those destinations and the facilities created to cater for their needs" (Mathieson and Wall, 1982: 1). Mill and Morrison (1985: xvii) state that "tourism is a difficult phenomenon to describe. ... All tourism involves travel, yet all travel is not tourism. All tourism involves recreation, yet all recreation is not tourism. All tourism occurs during leisure time, but not all leisure time is given to touristic pursuits." Cohen (1972:165) notes that "Tourism as a cultural phenomenon becomes possible only when man develops a *generalized* interest in things beyond his particular habitat, when contact with and appreciation and enjoyment of strangeness and novelty are valued for their own sake. In this sense, tourism is a thoroughly modern phenomenon." There is little doubt that strangeness and novelty are essential to tourism experiences. However, "...not even modern man is completely ready to immerse himself wholly in an alien environment." (Cohen, 1972:166). This also suggests the problems of establishing sustainability in tourism development.

Unlike consumers of other industries, tourists view a destination as a whole and the tourism product is defined in terms of the tourist experience. Tourist satisfaction, which is produced by multiple segments of the tourism industry such as transportation, accommodation, services, attractions etc., is therefore very difficult to deliver. The poor performance of one sector or individual business is likely to have negative effects on the tourism image and tourism product of a particular destination area. This may well have negative impacts on the operation of other tourism businesses. These complexities and intersectoral linkages of the tourism system make it particularly difficult to measure sustainability.

It is clear that development issues cannot be properly dealt with if the relevant system, its structure and dynamics are not understood fully. Planning and monitoring tourism require a sufficient understanding of its definition and dynamic nature. Christaller (1963) advocates that the spatial dynamic analysis of various economic occupations of society may be conducted in two basic ways: the abstract idea of “pure” space and the “real” area. Christaller observed the life cycle of coastal destinations in the Mediterranean in the 1960s. He hypothesized a life-cycle model as follows:

Painters search out for untouched unusual places to paint. Step by step the place develops as a so-called artist colony. Soon a cluster of poets follows, kindred to the painters; then cinema people, gourmets, and the *jeunesse dorée*. The place becomes fashionable and the entrepreneur takes note. The fisherman’s cottage, the shelter-huts become converted into boarding houses and hotels come on the scene. Meanwhile the painters have fled and sought out another periphery - periphery as related to space, and metaphorically, as “forgotten” places and landscapes. Only the painters with a commercial inclination who like to do well in business remain; they capitalize on the good name of this former painter’s corner and on the gullability of tourists (Christaller, 1963: 103).

Tourism, like any other industry, is an agent of development and change. As an economic sector, tourism consumes and competes with other industries for resource use. Butler (1990) concludes that the level of consumption is determined by the scale and style of tourism development. In this regard, Wall (1997a: 486) emphasizes that "...the goal should not be to perpetuate tourism at all costs. Rather, the questions that should be asked are "whether and in what form tourism may contribute to sustainable development?" Wall suggests four basic elements for identifying a tourism typology; namely, attraction type, location, spatial characteristics and development status. The attraction types can be cultural, natural and recreational tourism. Based on location, two main types can be identified namely interior and the coast. Spatial characteristics can be classified into three types - nodal, linear and extensive resources. In terms of development status, three types can be found which are highly developed, developed and developing (Wall, 1997c). These criteria for classification are resource-oriented, and therefore provide different perspectives on strategic planning for sustainable tourism development. Different types of attraction possess different development potential and characteristics, which need to be well-defined for the suitable and sustainable use of resources as well as intensity of development. Likewise, any strategy for future tourism development should be defined based on the current status of development, its spatial characteristics and locations.

From a strategic planning point of view, Smith (1996 and 1997) offers four basic strategic approaches to tourism planning and development, which are the *ad hoc*, *limited growth*, *integrated* and *comprehensive* strategies. Each of these development approaches has its rewards and shortfalls when adopted in different development

contexts. While *ad hoc* development may be appropriate in small-scale and less-intensive tourism development, it accelerates environmental degradation in intensive and large-scale development. Unfortunately, it is observed that *ad hoc* development is the typical development approach in most tourism destination areas of Asia (Smith, 1997). This raises profound concerns about sustainable tourism in the region, where the expansion and high growth of tourism development is evident. The *integrated* and *comprehensive* approaches are widely recommended as essential for sustainable tourism development in the region, though the practices of these approaches are still arguable. This is not due to their theoretical basis, but rather the institutional and political constraints, which are discussed later. Integrated and comprehensive tourism planning for sustainable development needs a well-established institutional framework for coordination and participation among stakeholders.

The classification of tourism typology varies with different purposes. To date, much of the analysis and discussion of this issue remains bogged down in terminology and conceptual ambiguities as well as debate about its practical implications. A number of terms have been brought into the lexicon of sustainable tourism in recent years, such as alternative tourism, responsible tourism, green tourism, nature tourism, ecotourism, soft tourism, etc. (Smith and Eadington, 1992; Boo, 1992; Nelson et al., 1993; Cater and Lowman, 1994; Bottrill and Pearce, 1995). These have attracted considerable attention from researchers and planners in terms of their sustainability. However, it is clear that there is no single form of sustainable tourism which can act as a panacea. The potential for sustainable tourism development needs to be examined in different contexts of development.

While sustainable tourism is regarded as a development form contributing to general sustainable development, it calls for more efforts to establish and sustain the balance between business goals and social, cultural and environmental conservation goals. Though different forms of tourism may create different patterns of tourism development, it is obvious that alternative forms of tourism will not sustain themselves unless they meet the criteria of sustainable development. Wall (1997a: 490) concludes “ecotourism is not automatically sustainable. If it is to contribute to sustainable development, it must be economically viable, environmentally appropriate, and socio-culturally acceptable.” Likewise, Butler (1992) notes that mass tourism need not be uncontrolled, unplanned, short-term and undesirable.

The dynamics of a tourism system can be seen both in its spatial and temporal dimensions. Over time, tourism tends to be concentrated in a few localities. From the viewpoint of diffusionists, this polarization is necessary as impacts are diffused into other regions and finally lead to adjustment of the regional disparities (Friedmann, 1966; Alonso, 1968; Browett, 1982). However, recent research has shown that the effectiveness of tourism as a tool for regional development in developing countries remains doubtful (Freitag, 1994; Oppermann, 1992; Hohl and Tisdell, 1995). Tourism concentration may perpetuate regional disparities and increase economic dependency. As an obvious form of tourism concentration, enclave resorts in the area where tourism is based on poorly developed infrastructures, controlled by outside developers and with weak linkages with the local economy, may promote local dependency rather than development (Cohen, 1984). Freitag (1994: 551) affirms that the model for

economic growth based on enclave tourism aggravates the problems of regional disparity and does not provide the impetus for regional economic diversification. Much research shows that intensification of tourism development in many regions characterized by large foreign-owned establishments has minimized the local linkages, increased dependence and reduced multiplier effects to the regional economy (Milne, 1987; Pearce, 1989; Ioannides, 1992; Oppermann, 1993; Williams, 1993).

In addition, it is argued that integration is very scale-specific, and most so-called integrated resorts usually lack linkages to the local economy. They may therefore be not well-integrated in this sense, and their sustainability can be questioned. By comparison, small-scale, locally-owned tourism ventures probably make a greater relative contribution towards sustainability in terms of enhanced standards of living for host communities (Cater, 1995; Cater and Lowman, 1994; De Kadt, 1992). However, in the analysis of sustainable tourism, socio-cultural and environmental impacts should be brought into the evaluation, which is usually very complicated at an operational level. Hence, the conclusion about the role of different forms and scales of development may be different depending on the location.

It is necessary to note that the stage of tourism development may occur differently with its dichotomies. The differentiation of tourism dichotomies, such as “informal or lower circuit” and “formal or upper circuit”, “institutionalized” and “non-institutionalized” have provided useful approaches to understanding tourism planning for sustainable development. These forms of tourism are different from one another in

terms of sustainability and their contribution to regional development, and in evaluation is still the subject of debate (Cohen, 1972; Plog, 1973; Butler, 1980; Gormsen, 1981; Oppermann, 1992 and 1993; Ioannides, 1992; Kermath and Thomas, 1992; Hamzah, 1997). There is little research on the informal tourism-related sector, though its role and impact on overall tourism development are apparent in developing countries. The study of how this sector can be included in the process of sustainable tourism development has been largely ignored.

To be sustainable, tourism should support local economies through stimulating a wide range of local economic activities, encouraging employment and maintaining and improving the environment (Eber, 1992). The economic diversification, along with higher integration of informal tourism enterprises, may help mitigate the issues of dependency and leakage in tourism development (Eber, 1992; Oppermann, 1993). Research on sustainable tourism planning and evaluation should take all these variables into account if it is to be realistic and useful for management. Furthermore, it is suggested that devising and testing a sustainable tourism model can help mitigate the problems of disparity and dependency in tourism development.

Regarding the movement towards sustainable tourism development, it is important to ask the question of what form(s) of tourism can contribute to sustainable development. How can tourism itself be sustained in this development context, or can tourism ever be sustainable? McKercher (1993: 136) suggests that "For tourism to survive sustainability, it must take a proactive leadership role in addressing the difficult challenges of integrating the needs of all groups." The above arguments

should not be taken as a judgment on tourism sustainability, but rather show the role of tourism in establishing and retaining its position in sustainable development. Sustainable tourism development must meet certain criteria, which should tackle not only the ethical principles and matter of socio-economic equity, but also the issues of

for the problem is that the self-interested pursuit of profit maximization has traditionally dominated strategic focus. From a systems viewpoint of the tourism industry, it is necessary to note that without control and well-defined responsibilities, the “tragedy of the common” in resource use is inevitable (Hardin, 1969). The underlying human frailties of greed, selfishness, intolerance, and shortsightedness – the so-called “ills of development” (Mohan and Walter, 1995) may easily become internal driving forces of any human response in resource utilization and management. Consequently, sustainable development becomes vulnerable. This implies the emerging need for building awareness and “commitment to equity” among stakeholders in tourism development. Nash (1989: 4) asserts that:

The emergence of this idea that the human-nature relationship should be treated as a moral issue conditioned or restricted by ethics is one of the most extraordinary developments in recent intellectual history. Some believe it holds the potential for fundamental and far-reaching change in both thought and behavior comparable to that which the idea of human rights and justice held at the time of the democratic revolutions in the seventeenth and eighteenth centuries.

Considering this fact, the ethical concerns of sustainable tourism development can not be ignored. Sustainability in itself is a moral value. It requires more concern about future generations, respect of ecological integrity, and the community, and “rededication to justice and civic democracy.” Euston and Gibson (1995: 5) argue that “...(A) universal morality proclaims a basic obligation of living in community; our individual drives to live and prosper must be qualified by the claims of others to do the same. We need and value others - both human and non-human- for our own well-being. ... By virtue of being human, we live with the sense of our bonds to others.” This understanding and perception are recognized as a sense of ethical responsibility and value, which are the “preconditions” of a sustainable society. Therefore, in

moving toward sustainable tourism development, a well-defined code of ethics is needed to call for more responsibility and moral obligation from people and businesses. “We have not inherited the earth from our parents, we have borrowed it from our children” (IUCN, UNEP & WWF, 1980).

Nelson (1993: 265) explains “the core of a commitment to tourism and sustainable development is a sense of civics, of the participation, groups working interactively and adaptively...Working out of codes of practices and other agreements locally is probably the most promising way of creating effective monitoring, assessment and management systems in the ground.” The challenge in this process is to generate mutual learning and adaptation among interested parties so that they recognize and share responsibilities and goals. People need to be empowered and involved, working together in the context of sustainability toward tourism development goals which requires more attention to attitudes, values, preparedness, and motivation for cooperative action (Burr, 1995). This argument becomes valid when applied to sustainable tourism development as its nature is largely determined by what stakeholders want it to be, and it can be accomplished only when these stakeholders have found a mechanism to work together and have access to vital and useful information.

2.3 Tourism and Sustainable Development in Developing Countries

Development is commonly understood in several ways which have different meanings and change over time. Development with its many dimensions reflects the

complexities of the measurement and evaluation of sustainable development. As defined by Friedmann (1980), development has at least five dimensions referring to (1) an evolutionary process; (2) association with words like under, over, or balanced, suggesting it has a structure; (3) the development of something like a society, a nation or a skill; (4) a process of change; (5) the rate of change. The measurement and evaluation of development are also different amongst societies with different development status. This is because the ultimate goal of development is to meet human needs which are different from place to place and changing over time.

Sen (1996:10) views development as “...the process that enhances the freedom of those involved to pursue whatever objectives they value. ... The expansion of human capability may be described as the central feature of development.” In a broader view, Kaul (1985:100-1) explains development as a “...process of improving the capability of a country’s institutions and systems to meet increasing and different demands of a social, cultural, political as well as economic character.” He adds, essentially, development is a process of institutional changes involving both economic and social activities and these changes have to be brought about by carefully conceived and properly implemented programmes. These arguments converge in the conceptual definition of development as process in which changes occur over time, rather than just merely perceived as growth. This provides an approach to explaining and evaluating sustainable tourism.

Though the term sustainability was introduced around a century ago, it was not much used until recent decades as people became more conscious about development and its

impacts on their living environment. The importance of sustainability was emphasized in the Brundtland' Report (WCED, 1987) when it emerged as having connotations of consciousness about long-term benefits. The concept of sustainability is defined as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED, 1987: 43). Sustainable development means improving the quality of human life while living within the carrying capacity of supporting ecosystems (IUCN, et al., 1991). Therefore, sustainable development should not be in conflict with economic growth, but rather it contributes to it. This is even more crucial in Third World countries, where the alleviation of poverty has emerged as a national policy priority. The United Nations attests in its Global Outlook 2000 that "sustainable development does not imply cessation of economic growth. Rather it requires a recognition that the problems of poverty and underdevelopment and related environmental problems cannot be solved without vigorous economic growth" (UN, 1992: 75).

As mentioned earlier, sustainability embodies at least three different perspectives which are those of a philosophy, a plan or strategy and a product (Wall, 1997b). From a strategic planning viewpoint, sustainability can be viewed as a plan or development strategy which is usually expected to result in sustainability, and therefore provides a standard and principles for development. It can also be viewed as a product or an end goal of tourism development such as a sustainable resort or a sustainable tourism attraction, which is very site-specific. The third perspective of sustainability implies a philosophy or code of ethics, implicitly and explicitly, which are multifaceted phenomena and very often open to contradictory interpretations (Redclift, 1987;

Nieto, et al., 1995). In addition, sustainability is not “a fixed state of harmony, but rather a process of change” (WCED, 1987). It implies a continuous use of resources and a balance in development framed with institutional changes and orientation of technological development which become imperative for long-term development.

Sustainability is thus subject to numerous interpretations. Very often, sustainable development means environmentally sustainable with emphasis on the overall physical and economic environment. To others, sustainable development embodies both socio-economic and environmental sustainability. While both may come together in building an acceptable definition of sustainability, sustainable human development as an extended dimension of sustainable development according to UNDP’s concept, has been almost forgotten in the sustainability debates. Yet there is no doubt that human resource is at the center of development should be concerned not only as demand factor, but more important as capital of development.

In addition, sustainable development literature tends to stress the need for balance and tensions between the economy and environment, while culture is relatively neglected or compromised. This may be due to the common trade-off in development or problems in the measurement of culture changes. As Wall (1995: 268) notes “culture is more diffuse and less amenable to quantification and mapping. To the challenges of identifying and evaluating heritage resources, can be added the difficulties of determining what is to be protected or shared with tourists and how it is to be interpreted.” As a tourism resource, the role of culture should be considered from two different perspectives. First, culture is the context in which sustainable development is

formulated. Sustainable development will not be achieved if development fails to incorporate cultural values and sensitivities, which are changing over time. Second, culture is an asset which should be sustained. It is vulnerable to development and external forces. The movement of sustainable development should not overlook these concerns.

The controversy about sustainability is tied up with assumptions on resource bases and their substitutability in development. Nobel-winning economist Robert Solow assumes that “if it is very easy to substitute other factors for natural resources, then... the world can, in effect, get along without natural resources, so exhaustion is an event not a catastrophe” (Solow, 1974). Based on advanced capital theory, economists in the last decade have begun to recognize that resources are a unique type of capital. “Natural capital” therefore has gained the same weight and theoretical status as the “human-made capital” (Rees, 1997). The expansion of this concept has provided the basis for developing measures of sustainability. At one extreme, many neoclassical economists and planners today favor the “weak sustainability” model, which assumes that the two forms of capital are interchangeable. Therefore, the depletion of “natural capital” does not matter (Rees, 1997). Unfortunately, many crucial goods and services of nature are essential to human life, cannot be substituted and their loss is irreversible. High-income economies such as Japan, the United States and Germany seem economically sustainable, but they are “running massive ‘ecological deficits’ with the rest of world. They draw on the Third World for resources, locate high-polluting industries and land-fills there, and abuse global common” (Rees, 1997: 39). Moreover, the critique of the ‘weak sustainability’ model points to the difficulty of the

measurement of natural capital stock using market prices. Much of the wealth of nature is invisible and cannot be priced in marketplaces, such as biodiversity and its spiritual value, the carbon-sink function of forests, etc. Therefore, ecological economists and environmentalists have supported the “strong sustainability” model, which is more cautious with ethical concerns about the use of natural capital stock for long-term viability.

In the same way, many authors have described sustainability in terms of a wide spectrum from very weak sustainability to very strong sustainability with different ethical stances and management strategies (Turner, 1991; Turner, et al, 1994; Hunter, 1997). However, the growing consensus in the sustainable development debate is “frequent rejection of ‘extreme’ paradigms”, and moves towards a center-grounded position based on the compatibility of sustainable development with continued economic growth to help the majority of the poor in the Third World (Trainer, 1990; Hunter, 1997). It is argued that below certain levels of economic growth and in the absence of some required substitution between natural and human-made capital, environmental degradation becomes a force (Karshensas, 1994; Hunter, 1997). The justification for the trade-off between a growth-oriented economy and sustainability is often rooted in this argument. Therefore, goal and objectives of development should be well-defined in the movement towards sustainability.

Nieto, et al. (1995) summarized five interpretations of sustainable development; namely, the Brundtland Report (WCED, 1987), attempts to quantify or operationalize the concept of sustainability, a neo-Marxist critique, the ‘deep ecologists’ or

environmental ethics and the views of anti-development theorists. The “quantifiers” (the term used by Nieto, 1995), predominantly economists, “...want to reduce the complexity of the sustainable development process to mathematical simplicity”, and a clear fact-value distinction. The neo-Marxists, particularly Redclift, conclude that sustainable development, if it is not to be devoid of analytical content, means more than seeking a compromise between the natural environment and the pursuit of economic growth. The definition of development recognizes that the limits of sustainability have structural as well as natural origins. Redclift (1987) claims that sustainable development options can only be achieved through political changes at the local, national, and international level. As Lele (1991) affirms “you can not talk about sustainability without talking about people, about politics, about power and control.” The “deep environmentalist” focuses primarily on nature, not culture, while the anti-development culture critics concentrate more on cultural values in long-term sustainable development. Therefore, the Brundtland Report does have more coherence than the critics suggest (Nieto, et al., 1995).

Applying above arguments to tourism development, Nelson (1993: 22) states that “tourism and sustainable development reflect some of the basic environment and development challenges of our time. The matter of monitoring and assessment is a salient interest in thinking about responses to challenges”. Farrell (1992: 116) notes that “development (including tourism) is a wide-range of activities that should never be divorced from a serious and concerned consideration of environment and society. Rather, it must be viewed as a system of elements of economy, environment and society.” In theory, if not in practice, “...no component of these may be more

important than any other” (Farrell, 1992). The first World Conservation Strategy (IUNC, UNEP and WWF, 1980) proclaims that “sustainable utilization” becomes the backbone of strategic sustainable development, which comprises not only an economic dimension, but also social, cultural and ecological components. However, the practice of sustainable tourism becomes more complex due to the nature of profit-oriented business, which is always a challenge to sustainable development. How can social, cultural and environmental concerns be brought into “everyday corporate life”?

What factor(s) will encourage investment in resources used for sustainable development? These critical questions are not limited to host communities, but also extend to regional, national and international levels.

Tourism is not just a matter of national growth, but must be conceptualized as part of international relations (Smith and Ladington, 1992). The clamor from the school of “Dependence theory” about the widening gap between “North and South” and overdependence of Third World countries on First World countries (Britton, 1982; Leach, 1988) is often heard. This is quite convincing when the trend of international tourism or capital-intensive tourism has been established in most developing countries in the last decade. Matthews (1977) argues that tourism is a new form of colonialism and imperialism, somewhat extreme perception of tourism development and its affects.

Likewise, at a national and regional level there appear different concerns about disparity and dependency in tourism development. Some of the literature argues that regional development is a complex issue and tourism is only one of many economic

activities that could help to reduce regional disparities in developing countries (Christaller, 1963; Clarke, 1981). While the concepts of “unilinear change” and “tourism pole” (spatial tourism concentration) in development stage theory is widely accepted, its impacts on regional development and regional disparities are questionable (Plog, 1973; Birkbeck, 1978; Browett, 1982; Haywood, 1986; Husbands, 1981; Britton, 1982; Jenkins, 1982; Oppermann, 1993). Low multiplier effects are one of the reasons for the low regional distributive effects of tourism in peripheral regions. A few studies classify the roles of tourism at different development stages, especially at regional and local levels.

However, proponents of tourism assert that “dependency theory” may fail to incorporate tourism development into the context of developing countries. This may be because they ignore the informal tourism sector and neglect domestic tourism, which plays an important role in most developing countries (Britton, 1982; Pearce and Johnston, 1986; Pearce, 1989; Din, 1990; Oppermann, 1992). As Peters (1969) states:

The economic gap between rich and poor countries has widened over the past ten years. But to create new industries and to transform rural life in Asian, Africa and Latin American countries is a gigantic task. The relevance of tourism to this situation is that income from international travel can bring the foreign exchange essential for major investment. There is a widespread awareness of the potential benefits, but little has been done in practice to provide the means of expansion of tourism plans in most of the developing areas of the world.

Overall, sustainable tourism development and its impacts on development depend on the availability of infrastructure and investment capital, level of economic development and government policies. Unfortunately, in most developing countries economic development is characterized by perpetual shortages of resources including

technology, trained-manpower and foreign exchange, a wide range of infrastructure deficiency, and high levels of unemployment and underemployment (Smith, 1989; Kaul, 1985). These factors become barriers to development and aggravate the negative impacts of tourism development (de Kadt, 1979; Krippendorf, 1986). Several possible problems can be seen in this development context. First of all, it could increase the costs of tourism development, while economies of scale are low. At the other extreme, gradualism in development is not always a viable option, where rapid and large-scale development could give a more reasonable rate of return than tourism development. The option is “tourism or no tourism”, instead of the choice between slower and faster or dispersed and concentrated tourism. The need thus arises for integrated and comprehensive planning to bring about sustainable development.

Secondly, increasing economics dependence on outsiders becomes a common phenomenon. Dos Santos (1970: 231) explains that:

By dependence we mean a situation in which the economy of certain countries is conditioned by the development and expansion of another economy to which the former is subjected. The relationship of interdependence between two or more economies, and between these and world trade, assumes that form of dependence when some countries (the dominant ones) can expand and can be self-sustaining while other countries (the dependent ones) can do this only as a reflection of that expansion, which can have either a positive or negative effect on their immediate development.

This explanation can be extended to the national and regional level and across various sectors of the economy. In the tourism industry, it is commonly seen that outside investment in large-scale development, for instance large hotel chains or foreign-owned resorts, creates a situation in which the local economy is heavily dependent on them.

Thirdly, there exist weak linkages within the tourism industry and between tourism and other economic sectors. Pattullo (1996: 38) claims that “one overall effect of the weak organization of the tourist industry has been to enable foreign capital to make further inroads at the expense of a sustainable development strategy.” This mostly happens when government passivity or lack of foresight has left the tourist capitalist sector virtually “a free-for-all” (Conway, 1989).

Finally, tourism development may exacerbate the leakage from the economy, especially at the local level. McIntosh and Goeldner (1986) define tourism leakage as the contribution of imports and savings. Zheng (1996) suggests three types of tourism leakage including structural, financial and operational leakage, which are due to the import of construction materials and technologies, foreign capital, and goods and services. He also emphasizes the long-lasting impacts of financial leakage. Though levels of leakage and foreign involvement in tourism vary between regions, countries and within countries, the leakages in local economies and low economic multipliers are increasing. Mowforth and Munt (1998) noted that more than 50 percent of gross tourism revenues leaks out of the Third World destination country. In Southeast Asian countries the foreign leakage in tourism ranges from the lowest rate of 14 percent in the Philippines to the highest one of 59 percent in Singapore (Hitchcock, et al., 1993: 18). In most Caribbean countries, due to high import bills the rate of leakage is very high with an average of 70 percent. In the Bahamas, it is claimed to be as high as 90 percent (Pattullo, 1996: 38). Clearly the higher the dependence on tourism, the higher the leakage, and hence sustainable tourism development becomes more vulnerable.

Therefore, leakage and linkage as important planning factors should be taken into account in moving towards sustainable development.

The above discussion points to the fact that tourism development in less developed countries may be vulnerable to the changing of the outside world order and the turbulent business environment. Sustainable tourism development then becomes a critical issue in the development agenda of many governments. The priorities and trade-offs in development require for careful planning and coordination among stakeholders. This will help avoid disparities at all levels of development, and balance social, cultural and environmental factors to ensure sustainable development. Hunter (1997) emphasizes that a “truly holistic approach” needs to consider the contribution of sustainable tourism to sustainable development. He states that “perhaps the most appropriate way to perceive sustainable tourism is not as a narrowly-defined concept reliant on a search for balance, but rather as an over-arching paradigm within which several different development pathways may be legitimized according to circumstances” (Hunter, 1997: 859). He proposes four possible sustainable tourism approaches based loosely on interpretations of sustainable development. They are “Tourism Imperative”, “Product-led Tourism”, “Environment-Led Tourism” and “Neotenous Tourism.” These models of sustainable tourism may allow a broader view of policy formulation in tourism development towards sustainability. While the “Tourism Imperative” approach will move towards very “weak sustainability”, the “Neotenous Tourism” expects to result in very “strong sustainability”, which implies that tourism development should be limited since the very early stages of development through control of access or land-use planning. However, the

“Neotenus Tourism” may be only practical in areas “...largely devoid of tourism activity” (Hunter, 1997). To avoid these two extremes as discussed before, the two other approaches may be seen as more feasible and applicable in sustainable tourism planning and management. Cronin (1990) suggests that sustainable tourism development consists of finding the balance between a degree or type of development that will bring economic and other benefits to a community and the point at which that development starts to feed on rather than to sustain the very elements of its basis.

In moving toward sustainable tourism development, question must be asked about who benefits and who does not. The concepts of cost and benefit in development should be extended not only to economics, but also to social, cultural and environmental aspects. The temporal and spatial discontinuities, which may induce the trade-off between short-term and long-term benefits, between regions and between sectors are always challenges to sustainable tourism development. Unfortunately, it is not easy to answer all these questions, due to lack of ability to determine levels of sustainable development and to manage and control tourism development, as well as to identify the spatial dimension of sustainable development (Butler, 1990; Kreutzwiser, 1993). However, there is little doubt that local residents, as well as the general public at tourist site destinations, often bear the costs of over-development through diminished aesthetic or use value of the resources. Tourism development creates “winners” and “losers” among the local residents, often without common acceptance of the equity of redistribution (Smith and Eadington, 1992). Narrowing these gaps is a challenging task for sustainable tourism development.

2.4 Planning for Sustainable Tourism Development

Tourism, like any other economic activity, flourishes best when it fits into the context of the general economic, social, institutional policies and programs which are designed to lead to the optimum growth of the economy as a whole (Kaul, 1985; Gartner, 1996). Smith and Eadington (1992) stress that tourism is an industry, but it is also a form and agent of development and change and must be recognized as such. Controlled and managed properly, it can be a non or low-consumptive utilizer of resources. However, more than any other industry, tourism is characterized as a highly fragmented, exceptionally heterogeneous and dynamic industry (Leiper, 1993; Oppermann, 1993; Smith, 1995). Therefore, sustainable tourism may not be achievable if all these factors are not taken into account in an integrated and comprehensive planning and management strategy, in which community support is necessary. The Charter for Sustainable Tourism from the first World Conference on Sustainable Tourism emphasizes that “sustainable development means the solidarity, mutual respect, and participation of all players implicated in the process, especially those indigenous to the locality. This must be based on efficient cooperation mechanism at all levels: local, national, regional and international” (WTO, 1995).

2.4.1 The Evolution of Tourism Planning

The concept of tourism planning has evolved in the last decade as an active response to the increasing role of the tourism industry in development and its wide range of impacts. Rose (1984) states that planning is a multidimensional activity and should be

integrated. It embraces social, economic, political, psychological, anthropological and technological factors. It is concerned with the past, present and future. In this mainstream of thought, researchers and practitioners have suggested that tourism planning is a process which has to be continuous, flexible and adaptive to the changing environment, rather than rigid within the boundaries of government bureaucracy (Doxey, 1976, Keller, 1984; Lang, 1988; Inskip, 1991; Woodley, 1993; Gunn, 1994; David, 1994; Bui and Smith, 1997).

David (1994) emphasizes that planning at the community level is vital if any region wishes to deliver tourism experiences which ensure both visitor satisfaction and ongoing benefit for residents of destination areas. However, the successful examples of local involvement and community participation are still rare. This has become one of the major concerns in efforts towards achieving sustainable tourism development. Seeking a solution for this situation is challenging because of the issues of power, the structuring and control of knowledge, and the rhetorical development of ideology and values in planning practices (Tauxe, 1995).

Nelson (1993: 259) points out that quality growth in tourism is not possible without careful attention to the principles of sustainability which include an interest in natural and human diversity, maintenance of essential ecological processes, conservation of productivity, and equity in the sense of high regard for cultural heritage and access to economic, social, and natural opportunities for people generally. Of critical importance to sustainable tourism development is "an informed, open participatory public process for decision making." He further emphasizes that "we require studies

of how people have worked and can work together in tourism and other industries or other activities in a pluralist and sharing manner. We need to know more about sharing control and decisions.”

Hawkins et al., (1980) conclude that changes of overpowering magnitude, failure to engage in futurism, failure to plan ahead in the tourism industry, the attempt to deal with legislative and other related policy issues on a strictly *ad hoc* basis - all result in decisions that can be self-canceling, wasteful, and ineffective. After 20 years, these problems still apply in sustainable tourism planning and management. Strapp (1988) warns that “without very cohesive and progressive planning, all tourist centers are destined for some forms of decline.” Thus, sustainable tourism theory and planning are concerned with environmental impacts, new trends in tourism and leisure and public and private development strategies (Coccossis and Nijkamp, 1995). These arguments emphasize that the greatest challenge for decision makers in the future concerns the renewal of the mass tourist resorts of the post-war period. As the product life cycle reaches maturity and their facilities age, potentially they will present enormous redevelopment problems. If they do not attract new rounds of investment in tourist facilities, how will the built environment be maintained and what will be the impact on local labour markets (Williams and Shaw, 1991)?

This is commonly observed in tourist destinations all over the world, especially in the Asia - Pacific region, where tourism is enjoying the fastest growth with its well-endowed “sun-sand-sea” tourism. Integrated resorts with their shared components of products and services seem to be a suitable model in most places to meet the

increasing demand of the leisure market, rather than traditional three 'Ss' tourism. However, in the highly competitive regional and international environment, with the new entry of many destinations in the region (Pearce, 1997), the life cycle of tourism areas tends to be shortened. This becomes a driving force for the adoption of sustainable principles in tourism planning and development in the region. The WTO (McIntyre, et al., 1993) emphasizes that the concept of sustainability is a powerful one for defining an appropriate approach to tourism development, which can be implemented based on the following principles: 1) more comprehensive and integrated planning; 2) more consultative and participatory planning; 3) forming new institutional relationships between government, industry, and communities; 4) ensuring economic equity in tourism development; 5) conducting a careful assessment, monitoring and mediation program. However, it is far reaching in practice, and hence the achievement of sustainable tourism development is still questionable.

In a more detailed explanation Murphy (1994) suggests a list of components of a sustainable approach to tourism development as follows:

1. Establishing ecological limits and more equitable standards
2. Redistribution of economic activity and reallocation of resources
3. Population control
4. Conservation of basic resources
5. More equitable access to resources

14. Broad national/international policy framework

Though these components provide clear guidelines for planning and monitoring progress towards sustainable development, they seem to put more emphasis on resource utilization and conservation at a macro level. These therefore need further modification if they are to be applied at lower levels. As Murphy notes earlier, the planning system must extend down to the micro-scale of local government. Integration can be neither terminated at an intermediary level, nor left solely in the hand of experts (Murphy, 1985). Though it may not be easy to define the clear boundaries of specific tourism products, the effort of delineation is important. Gunn (1994) concluded that when tourism functions are better understood, and if tourism development is to reach forward to improved social, economic, and environmental goals, there are opportunities for better tourism success by planning at the *destination zone* as site unit. This also suggests a suitable framework for research on tourism impacts and sustainable tourism. He further elaborates that *destination zone* can be defined in many ways, referring to an administrative, marketing or geographical *area* “*containing a critical mass of development that satisfies traveler objectives*” (Gunn, 1994).

However, the experience of tourism planning and development shows that well-planned tourism development may not lead to sustainable development. This is largely due to the lack of necessary coordination and integration among different development interests. Also, very often tourism planning at site level is not well integrated into local development plans, which commonly engenders unsustainable tourism. Farrell (1992) reports a good example in his case study of Maui (Hawaii).

Though Maui's tourism is well-planned, much of its development is "...discrete and cellular with limited integration...." The vegetation has been replaced by artificial golf courses; local character has already disappeared; people must leave the area because of excessively high land values. The failure to meet economic, social and environmental goals has been exposed. The lesson learned is that sustainable development can not be achieved 'until all parties understand objectives and rules to play by' as well as display commitment to constant effort over time.

2.4.2 Cooperation and Participation: Opportunities and Challenges

The increasing role of the local community in sustainable tourism development and enhancing public input and local participation are among major concerns in the tourism planning process. Jamal and Getz (1995: 187) argue that "collaboration offers a dynamic, process-based mechanism for resolving planning issues and coordinating tourism development at the local level." Many researchers have suggested a framework to facilitate and enhance local collaboration and participation in tourism planning (Murphy, 1985; Gunn, 1988 and 1994; Pearce, 1989; Inskeep, 1991). However, the level and efficiency of genuine participation is still limited (David, 1994). There needs to be more focus on local determination, local control and institutional arrangements, and low impact and long-term tourism development. The logic stems from not only an ethical basis, but also the nature of society itself. Justifying the requirements of participation and empowerment for sustainable development, Mohan and Walter (1995) state that "Societies are not stable and hence not sustainable -- unless their citizens have an effective voice in decisions that affect

their lives.” However, the balance of public inputs among levels is especially important in tourism development decision making. The input from “top-down” planning is seen in goals, guidelines and regulations, which must be matched by “bottom-up” planning involving local participation for achieving harmony in development (Gunn and Worms, 1973; Hilts and Moull, 1988; Smith and Eadington, 1992). As De Kadt (1979) mentions, weak local authority and public participation are seen as important causes of failure in sustainable development. However, there are few empirical studies to provide a better understanding and a possible solution, but rather public participation is often quoted in literature as a reminder. Several recent researchers have explored this issue from several perspectives. Tauxe (1995), from an anthropological viewpoint, concluded that “institutional procedures and formal planning work to enforce bureaucratic forms of organization, ideology and discourse in the ways that marginalize other ones. ... Local voices were less authority when they used local conventions of negotiation and rhetoric. This calls for greater cultural sensitivity in matters of power and communication in planning practices.”

In the same way, Reed (1997: 589) applied organizational theory within a tourism context to identify how power relations affect community-based tourism planning. She concludes that “Power relations that favor tourism will gain ascendancy as the nature and structure of the community itself changes through alterations to the demographic composition, economic base, and policies at higher tiers of government.” All these reflect the complexity of how to involve and improve the efficacy of community participation in sustainable tourism. The affairs of the industry,

therefore, should be deliberately subjected to public scrutiny and debate (Murphy, 1985).

It is also important to note that tourism is a part of a business process, which is always bottom-line. Many strategic decisions are made as a result of numerous, small, low-level decisions (Mintzberg, 1987; Farrel, 1992). As mentioned before, there is increasing concern about how sustainable tourism principles can be brought into strategic business plans, which are usually locked to the ultimate goal of profit maximization and growth. Environmental and socio-cultural goals are often forgotten. Though business people nowadays realize that a “green” operation has become a business imperative, the intrinsic value and business value of investing in conservation and sustainable development have not been consolidated. A major problem is that the concepts of sustainability and competitiveness are neither treated equally nor have evolved with much real consideration of how they should interact, although these two concepts are known as major driving forces in decision-making.

The most difficult problem for business is making the sustainable development agenda relevant and acceptable to small and medium-sized enterprises (Hanson, 1994). This is especially challenging in the tourism industry in developing countries where small and medium-sized enterprises play a potentially important role in sustainable tourism. Therefore, the key issue for introducing sustainability as a “fact of life” of the tourism business is focused on “...redesigning the decision-making structures from the factory floor to the corporate boardroom, and from the public service clerk to the Cabinet office. ... Consensus decision making, prosperity,

competitiveness, and sustainable development are therefore inextricably linked” (Hanson, 1994). The alignment between the bottom-up approach and top-down approach in strategic planning is therefore expected to provide a practical framework for sustainable tourism development. Although these two approaches have developed in different arenas with different objectives, and are often seen as mutually exclusive, there is an opportunity to actualize commonality of interest in sustainable tourism development among stakeholders. As Clarke and Murray, (1997: 192) affirm:

We are not selling out our sustainable principles by being able to present them in the form of a sustainable and viable business plan...The negotiation of contracts and relationships will be difficult and will not be conducted on a basis of parity of power, but it can be undertaken on the basis of sustainable principles to the mutual benefit of company and local population.

Therefore, the need is not to see if the principles and practices of sustainable tourism are mutually exclusive, but rather to create the opportunities for people and communities to practice the principles, which will help establish synergy in sustainable development. This is a strategic process to build up and sustain public awareness and hence, their commitment and contribution to sustainable tourism development.

2.5 Government’s Roles in Sustainable Tourism Development: Trends and Issues.

It would not be appropriate to discuss in depth the issues of government authority, politics and tourism development here which are not the concern of this research. However, it may be insufficient to examine and evaluate sustainable tourism if there is a lack of understanding about government roles in sustainable tourism development in

terms of policy, regulation and institutional arrangement. The question is not whether government intervention is necessary to sustainable development, but rather what major role government authorities should play to facilitate and promote sustainable tourism.

In recent years the terms of decentralization and downsizing in tourism planning and management have received more attention in research and the business world. There are a number of arguments which propose different courses of action in planning and management. However, the need for building partnerships and recognizing the role of the community are stressed. The local community should be given more opportunities to take part in the development process and facilitate its contribution to sustainable development in one or another way. Furthermore, local participation will help avoid conflicts between hosts and guests, assist community control, and hence promote equitable distribution of costs and benefits in development, which is more likely to be economically sustainable (de Kadt, 1979; Woodley, 1993).

It is important to note that decentralization to enhance public participation in tourism decision making and management does not mean losing out the government role, but rather it is about building a new paradigm of cooperation and partnership for better achieving sustainable goals based on a “win-win strategy”. Recent changes in Thailand and Italy’s tourism administration provide striking examples. The Italian government discharged its Ministry of Tourism in mid 1997. Twenty one regional governments now have the instruments with which to develop their own tourism policies (WTO, 1997g). The policies are designed to support small and medium-sized

enterprises and stimulate product quality which is believed to drive growth, rather than the destination itself.

In a similar but contrasting way, the Tourism Authority of Thailand in its new plan for ensuring sustainable tourism development highlights “a new partnership approach to tourism management - involving both provincial authorities and the private sector of the industry - as well as inter-ministerial controls.” Even at the lower levels, the trend is still clearly observed.

Government thus occupies a vital role in sustainable tourism development, despite the trends noted above. Moving towards sustainable tourism development is a comprehensive process, which needs well-defined guidelines, regulations and enforcement to integrate it with the overall development process. De Kadt (1979: 32) argues that “though government may have some impacts on the configuration of social forces, they inevitably represent the interest of certain groups more than others and operate within limits that are fairly narrow at any time.” He concludes that government policies, decisions and plans reflect both the broader balance of power in society and the development strategy which that balance implies. Without this match, it is hard to search for harmony in the development process. This denotes the important role of government in sustainable development, which is mainly legislative and institutional. Therefore, people must ultimately be able to find a powerful ally in the state or national government or their agencies, or they will have no allies at all (Greenwood, 1976). In addition, it is necessary to note that even where local authorities are endowed with legal powers to regulate the effects of tourism through

planning controls and responsibilities for municipal services, they often lack human resources to grasp the issues involved (de Kadt, 1979). This is the case in many places in the developing world such as Puerto Vallarta, Cyprus, Spain, etc. Up to this point, government roles are revealed not as “operational”, but rather in “regulating and enabling” sustainable tourism development.

2.6 Summary

This review of relevant literature on tourism, development and sustainability provides a comprehensive view of tourism typologies, their dynamics and contribution to overall development in terms of sustainability. While tourism is often accepted as a catalyst to development, it appears that its impacts and contribution to overall development are still the subject of debate. Sustainability embodies not only business values but also moral values with connotations of long-term benefits for every one.

Rooted in its parental concept of sustainability, sustainable tourism should meet certain criteria that lead to fulfilling the needs of different stakeholders and contribute to overall sustainable development. Sustainable tourism development should therefore be planned and managed in an integrated manner for achieving equity, balance and growth of overall development. Chapter 3 moves on to discuss issues of tourism quality, sustainable tourism principles and its evaluation indicators. The chapter also reviews the previous studies on sustainable tourism.

CHAPTER III

TOURISM SUSTAINABILITY - MONITORING AND EVALUATION

3.1 Tourism Quality and Sustainable Tourism

Though sustainable tourism development is a relatively new concept, it has drawn on a wide range of literature which underpins the principles for further sustainable development research and practices. For industries to be sustainable, they should be more efficient in resource use, be based on the use of renewable resources, generate less pollution and waste, and minimize irreversible adverse impacts on human health and the environment. Tourism is often presented as an ideal, non-polluting and environmentally friendly, labor-intensive industry (Burr, 1995). However, this holds true only if tourism is well-planned and managed on a sustainable basis. In other words, sustainable tourism development involves and relies on management, development and utilization of natural, historical, cultural, and human resources of the local environment (both natural and built environment).

The overall discussion on sustainability in the 41st Annual Congress of the International Association of Scientific Experts in Tourism (AIEST, November, 1991) at Seychelles led to the discourse of economic, sociocultural and ecological perspectives of quality of tourism. They suggest that “only the harmonization of the economic, sociocultural, and ecological aspects of tourism quality can guarantee a sustainable tourism development” (Schmidhauser, 1992). Therefore, future research is urgently needed to “...deal with criteria and indicators and norms of quality, methods to measure quality, strategies and measures to improve and secure quality, principles of managing conflicts, and strategies

to manage masses of tourists and minimize the negative side effects” (Schmidhauser, 1992: 575).

From the microeconomics viewpoint, the economic aspect of quality of tourism is expressed in concern of “value for money” and “fitness for purpose” for visitors; while for tourism businesses, which offer products and services, quality means “satisfactory financial results”. For the broader view of macroeconomics, quality of tourism is valued in terms of government revenue, job creation, foreign exchange, infrastructure improvement and national and local economic development.

Sociocultural and ecological aspects of quality emphasize conservation and enhancement of sociocultural and physical environment. These aspects put more concerns on “carrying capacity” of the environment. However, it is worth noting that to conserve quality of tourism based on limiting growth such as bed capacity, absolute restriction to natural heritage or limiting “unrealistic low level” of visitors seems not to be always a true sustainable option (Schmidhauser, 1992; Cater, 1993; Wall, 1997a). Though this is commonly a suitable option regarding ecological aspects, it may violate the economic aspects of quality tourism, which is regarded as the most vulnerable element in sustainable tourism development, especially in developing countries.

All these aspects reflect the need for positioning common values and norms in resource management and tourism development. Yet, it is true that without control, responsibility and awareness, quality tourism as a part of a sustainability paradigm is far reaching. Plog (1973) gave the warning that “destination areas carry with them the potential seeds

of their own destruction, as they allow themselves to become more commercialized and lose their qualities which originally attracted tourists". Butler in his well-known research on tourism area life cycle concludes that "tourism attractions are not infinite and timeless, but should be viewed and treated as finite and possibly non-renewable resources...."; though "tourism has shown an, as yet, unlimited potential for growth" (Butler, 1980: 11). Therefore, the goals of sustainable tourism development should be: to develop a greater awareness and understanding of the significant contributions that tourism can make to the environment, people, and the economy; to promote equity in development; to improve the quality of life of the host community; to provide a high quality of experience for the visitor; and to maintain the quality of the environment on which the foregoing goals depend (Inskeep, 1991).

It is very difficult to visualize how sustainable tourism can be engendered in practice. Niles (1991: 3-4) suggested that it is myth, in that it is impossible to create culturally and environmentally benign forms of tourism - particularly against the back-drop of mass commercial tourism which characterizes the industry today. It is also very challenging that in the Third World countries where there are many social, economic and political forces such as poverty and unemployment, shortage of foreign exchange, lack of local democracy, etc., which intensify the pressure on exploitation of resources, have encountered the sustainable tourism practices. For many others, sustainable tourism should be much more than tourism itself. There may be no only valid conceptualization of sustainable tourism , but rather "an adaptive paradigm capable of addressing widely different situations and articulating different goals" in development (Munt, 1992; Hunter, 1997). On this ground, trade-off is necessary and sustainable

tourism would be realistic but sensitive to local-specific factors. Butler (1993: 29) defines sustainable tourism in the context of sustainable development as:

Tourism which is developed and maintained in an area (community, environment) in such a manner and at such a scale that it remains viable over an indefinite period and does not degrade or alter the environment (human and physical) in which it exists to such a degree that it prohibits the successful development and wellbeing (sic) of other activities and processes.

The argument renders a connotation that a ‘tourism-centric’ paradigm may not be reasonable in sustainable tourism research and practice, which has been criticized as being too ‘parochial’ to provide a conceptual vehicle for policy formulation (Wall, 1993, Hunter, 1997). Sustainable tourism development could not escape from the balance with other economic activities and consideration in resource uses. Therefore, sustainable tourism development should be defined as:

...meeting the needs of present tourists and host regions while protecting and enhancing opportunity for the future. Sustainable tourism development is envisaged as leading to management of all resources in such a way that we can fulfill economic, social and aesthetic needs while maintaining cultural integrity, essential ecological processes, biological diversity and life support systems (Pleumarom, 1990: 12).

According to this definition, sustainable tourism development should not be viewed simply “as a way of making money”. It is about thriving without sacrificing future quality of life for present economic gain, which bring us to the heart of the challenge for the tourism industry. For the purpose of this study, *sustainable tourism is defined as a goal or a product of tourism development that matches economic, social, cultural and environmental goals of development at a specific area without degrading the environment (human and physical) over time.*

3.2 Sustainable Tourism : Principles and Indicators

Tourism sustainability is defined as an integrative concept, which incorporates growth and balance, diversity and integrity, economic viability and social cultural, ecological integrity, development and conservation (Mathieson and Wall, 1982; Smith, 1991; Wall, 1993). There is growing global concern about fast growth of the tourism industry in regarding to its social economic and environmental impacts. Sustainable tourism therefore becomes scrutiny, both from public and internally, in terms of how it may contribute to sustainable development (Wight, 1993). Despite the fact that much effort has been devoted to searching for a sustainable tourism model, the conceptualized and operationalized framework which is needed for sustainable tourism planning and management at different levels of development has not yet been obtained. Butler (1993) stated that there is no satisfactory definition of sustainable tourism and hence the fully-developed indicators to evaluate and monitor the sustainability of tourism. However, the literature on evaluation indicators for sustainable tourism is available which may help to identify a suitable conceptual framework for this kind of study.

Wall (1997a: 486) raises critical questions concerning sustainable tourism development "...Should one be trying to sustain individuals, communities, regions or nations; ... Should all existing tourism development be sustained ... Must all tourism development be sustained or can one envisage situations in which tourism is advocated as a temporary, intermediate, means to achieve other development goals?" Wall stresses that

levels of concern will view sustainability differently. It happens that sustainability may be obtained at an operation level but not necessarily at regional or national levels. Unfortunately, there is lack of empirical evidences which can shed light on these issues and provide a framework for sustainable tourism monitoring and evaluation. Much effort has been made to develop sustainable indicators at national and global level, but less attention is paid at local or operational levels. While it seems true that tourism is very sensitive at site level, both operational and environmental quality.

Commonly terms such as 'Green Globe', 'Green Model' and 'Green Tourism' are promoted in the effort of searching for a sustainable model both at global and local levels. The basic ideas are concentrated on four 'Rs' as 'golden rules', namely reduce, reuse, recycle and rethink systems, procedures and policies (Khatri, 1996). These ideas reflect increasing concerns with respect to environmentally sound practices, as being a fact of life rather than 'fads' as misunderstood in some ways. They also provide understandable guidelines in developing indicators of sustainable tourism development. With more emphasis on informative value of indicators rather than quantifying indicators themselves, many authors have suggested that indicators are not of much value in and of themselves. Indicators and monitoring much be linked to assessment and to judgments about the meaning of the information provided by the indicators (Butler, 1993; Wall, 1993; Nelson, 1993; Smith, 1995). In this concern Kreutzwiser (1993) offered some basic desirable attributes of sustainability indicators for tourism including (1) sensitive to temporal change and spatial variation; (2) predictive or anticipatory capacity; (3) provide relative measures of condition; (4) reference to threshold values for the indicator are established; (5) practical to apply. While the above criteria provide

insights in developing indicators of sustainability, Kreutzwiser added that the fundamental issue is the conceptual validity producing relevance of the indicators which is overlooked in most research on sustainable tourism.

As commonly understood, tourism and sustainable development often focus on development and its relation to the environment (social and natural). Managing efforts to fit tourism into overall sustainable development should not be out of the concern with “carrying capacity” (resilience and sensitivity) of the environment in which it develops. The adaptation of this ecological terminology is widely accepted nowadays in sustainable tourism planning and development. While the definition and implication of ‘carrying capacity’ are clear, it is not as easy as said when efforts are made to identify it, because ‘carrying capacity’ is a “magic number which does not exist” (Wall, 1982). As Butler (1993: 39) concluded: “there is no satisfactory indicators of carrying capacity or the ability of environments to sustain tourism...And we really have no indicators of the sustainability, or acceptability of tourism or the capacity of the destination areas. In many cases such indicators come too late for satisfactory remedial action, even if that had been possible. Other analogies are drawn such as ‘Limit of Acceptable Change’, ‘Critical Value’, which are ways to translate the concept of ‘carrying capacity’ to make it more applicable. However, the issue of identification still remains a major barrier to the application of ‘carrying capacity’ in sustainable tourism management.

Moreover, there exists implicitly a threat that cultural and environmental degradation happen in a progressive and continuous process which is commonly hidden before it becomes apparent to tourism planners or operators. Therefore, the remedy may be too

late if using “carrying capacity” in the search for ultimate limits. Rather, it would be better to use “carrying capacity” as “a planning concept to development controls and rehabilitative effort in the never-ending pursuit of better quality living environment” (Getz, 1992). The rationale is clear that environmental degradation is rarely catastrophic, but it becomes catastrophic by cumulative effects from many small increases in environmental neglect. Thus, sustainability can be safeguarded by the avoidance of such cumulative negative threshold effects (de Kadt, 1992; Pigram, 1992).

These manifest the theoretical and practical complicatedness in developing the indicators of carrying capacity in general, as well as sustainable tourism indicators, in particular. Rees and Wackernage (1994) for their concern on urban-rural sustainability defined the carrying capacity as maximum human “load”, which is measured by “ecological footprints”. The “ecological footprint” is the total area of productive land and water required continuously to produce all the resources consumed, and to assimilate all the wastes produced, by a specified human population, wherever on Earth that land is located” (Rees, 1996). According to Rees, “load pressure relative to carrying capacity is raising (sic) much faster than is implied by mere population increases”. Interestingly in these findings it was proved that by measuring the “ecological footprints”, the level of “ecological deficit” or the “ecological debt” of urban area to rural area, “no city or urban region can achieve sustainability on its own...While there could be no city without countryside the countryside could be viable without the city”. This may also help verify implicitly the ecological imperatives in sustainable development.

The APEC Tourism Working Group on environmentally sustainable tourism also used “ecological footprints” to estimate the tourism effects in different tourism types. They conclude that theoretically the footprint model, to a limited extent and with availability of information, would predict whether environmental impacts of tourism would be positive or negative or neutral. However, it is necessary to note that impacts are site-specific, and that there are great variations within individual ecosystems (APEC, 1996; Berry and Ladkin, 1997).

While the above arguments on carrying capacity mainly related to the physical environment, it is necessary to consider the extension of this concept in social, cultural and economic environments. O'Reilly (1986) defines the economic carrying capacity as the ability to absorb tourism activities without disrupting the desirable local economy. The psychological (perceptual) carrying capacity is defined as the lowest degree of enjoyment tourists are prepared to accept before they seek alternative destinations. The social carrying capacity is the tolerance level of the host community toward the presence of tourists and the crowding of users in destinations (O'Reilly, 1986). These carrying capacities interact and are interdependent with each other and depend on levels of resource use and conservation practices. Thus, carrying capacity of tourism destinations should not be considered as absolute and fixed limits, but rather it may vary in different stages of tourism development. Though the application of the tourism carrying capacity concept as a planning tool is still limited due to difficulty of quantification and its variation, it should be used as a precautionary means for sustainable tourism management (WTO, 1984; O'Reilly, 1986; Pearce, 1989; Martin and Uysal, 1990).

Mathieson and Wall (1982) noted that if tourism is to contribute to the sustainable development of destination areas, it is essential that principles be developed which, when applied, will promote such development. Wall (1993: 54) in research on the Bali Sustainable Development Project defined sustainable development as “the continuity of natural resources and production, the continuity of culture and the balance within culture, and development as the process which enhances the quality of life”. Therefore, the sustainable types of tourism must be types which are compatible with indigenous (host) uses and cultures, sensitive to the capabilities of the resource base, and economically viable. Wall (1993 and 1997c) offers seven assessment criteria for sustainable development including ecological integrity, efficiency, equity, cultural integrity, community involvement in the development process, integration-balance-harmony and development as realization of potential. The term of integrity refers to the degree to which the life-support systems and the fundamental processes are maintained. It also means that tourism development must be compatible with environmental capabilities (Wall, 1997c, Commonwealth of Australia, 1997). Similarly, Burr (1995) suggests that to be sustainable, tourism development should follow ethical principles that respect the environmental and social integrity, economic fairness, balance and integrative planning. While these criteria are clear for sustainable tourism planning and monitoring, it is not always matched in practice. Lack of a holistic monitoring framework can be seen as one of the major causes that many plans have not been fully evaluated. Payne (1993: 155) notices that “it is easy to write the prescription for sustainable tourism. The difficulties arise, however, when that prescription is put into action”. Furthermore, the monitoring process becomes more complicated because different theoretical perspectives would explain the fact in different ways, therefore

different indicators can be used. However, more overlap is observed when one looks at sustainable tourism from a systems viewpoint, which should be more realistic because tourism itself is a complex system. These arguments show that it is important to have well-defined objectives of tourism development, sufficient knowledge, responsible power to manage and feedback for effective application of indicators (Woodley, 1993). As a planning and management tool, sustainable tourism indicators should reflect the goals and objectives of tourism development in particular and development goals in general if tourism is to contribute to sustainable development. This imperative of sustainable indicators determines its variation attribute over time and space.

Based on the New Economic theories and “Whole Economy” concepts, Harris and Nelson (1993) in the case study of Indonesia reported that tourism is perhaps the most rapid means through which a mixed, “culturally-embedded” economy and its associated values are transformed and cultural diversity is lost. The sustainability of the tourism industry can be understood in terms of how it affects the community: the economy, the society and the environment. Hence, the indicators were suggested to monitor sustainable tourism development as follows (Harris and Nelson, 1993: 197):

1. Change in ownership of land
2. Change in ownership of tourism operations
3. Change in characteristics of employment
4. Local access to training and other forms of support for tourism
5. Backward and forward linkages between tourism activity and other formal and informal activity in community
6. Regional and community “balance of trade” impacts of tourism initiatives, strategies or plans
7. Degree to which initiative builds on cultural heritage of community and is culturally appropriate, not conflicting with community “vision” plans.
8. Degree of control maintained by community where tourism is in conflict with or threatens: privacy, environmental integrity, spiritual values and aesthetic values.

It is important to notice that “all human activity involving the conscious organization of the sustenance of life” and “both formal and informal activities are encompassed” (Ross and Usher, 1986; de Romana, 1989). Sustainability should be developed as an organization concept for policy. However, the idea of the “whole economy” is not to argue for preserving the informal and autonomous sectors, but to suggest that planners and administrators should acknowledge the value of such productive, social-embedded activities.

Bull (1991) evaluated sustainable tourism in different case studies of remote Australia by applying the concept of a sustainable tourist system based on goal balancing. A conclusion on tourism sustainability of each case was drawn from comparison between care (as the management of disturbance) and use of tourism (as the environmental experience) over time. But no detailed indicators were defined. Marsh (1993) suggested components of a tourism sustainability index including ecological, economic, social (for community and the tourism industry) and institutional aspects, which contribute and justify theoretically the measures of sustainability. Nevertheless, it is recognized that the number and type, relative importance, and quantification of descriptors need much further attention (Marsh, 1993).

Payne (1993) with a deep interest in tourism related to parks, wilderness and natural resources, notes that “opportunities” ought to be one focus of tourism management.

Hence, the indicators for monitoring sustainable tourism would be:

1. Ecological sustainability
2. Social sustainability

3. Economic sustainability

These components commonly converge in the literature of sustainable development and tourism, which helps confirm conceptual frameworks for planning and monitoring sustainable tourism development, though “tourism lends itself well to the idea of sustainable development” (Sadler, 1988; Wall, 1993). However, to be practical as the tool for sustainable tourism planning and management, further modification of these indicators is needed.

Conceptualizing tourism as “output” or “product”, many authors point out that the transformation of input into output must be recognized in developing sustainability indicators. This may be the greatest challenge for the development of sustainable tourism indicators in identifying and measuring the tourism product, and setting an appropriate spatial boundary. Unfortunately, conspicuously absent in many definitions of sustainable development is reference to spatial dimensions (Kreutzwiser, 1993; Butler, 1993).

In comprehensive tourism analysis, Smith (1995) suggested that practical sustainable tourism indicators will include some physical environmental indicators but they must also include measures relevant to visitor satisfaction, economic goals, and social impacts. Indicators must be sensitive to changes in environment not only spatially but also temporally. Also, “data for the indicators should be easy to obtain, easy to interpret, and capable of leading to a meaningful management response”. According to Smith (1995: 297), indicators are classified into the four following categories, which are detailed at national and local levels.

1. Warning indicators
2. Indicators for environmental stress
3. Base line indicators
4. Indicators of impacts

At the local level, Smith suggested detailed indicators which are not only concerned with “environmentally sustainable” as mentioned above, but also culturally and economically sustainable. These are: (1) destination attractiveness index; (2) site stress; (3) site protection; (4) endangered space; (5) energy and water consumption per visitor-day; (6) foreign ownership; (7) environmental quality measures; (8) capacity utilization of local infrastructure; (9) expenditures on environmental maintenance; (10) critical habitats; (11) economic impacts. However, these indicators are mainly quantitative and limited within specific tourism destinations. The absence of qualitative and predictive indicators may limit the applicability and validity of sustainable tourism indicators as well as their contribution to management. As Kreutzwiser (1993) noted, the indicators of tourism sustainability must be sensitive to temporal change and spatial variation, predictive, relative and practical measures. It should be continuous, opportunities and forward looking, rather than absolute and static. If indicators are to be established, they need to be predictive rather than current, i.e. they need to be indicators of future directions and problems (Butler, 1993; Wall, 1997a). In this regard, the qualitative indicators of management measures and practices can make more sense for tourism business to be sustainable.

Wallace and Pierce (1996) evaluated ecotourism in Amazonas, Brazil using proposed ecotourism principles treated as an ideal form of ecotourism for comparison and judgment on current ecotourism operations. A set of indicators was proposed for each

principle to evaluate how well the registered ecotour ventures addressed each ecotourism principle. The judgment was made based on the cumulative score from a 4-point scale assigned to each principle as determined by operators. The conclusions based on this method do not tell about sustainable ecotourism. The authors concluded that “indicators are not comprehensive but can yield an evaluation that is indicative of overall conditions, if carefully selected”. They further suggested that the methodological improvements can be made by using the Delphi approach to select indicators. The standards for each indicator should be developed “that enable a much higher degree of precision in measuring indicators that are associated with each principle” (Wallace and Pierce, 1996).

In a comparative study, Simpson and Wall (1999) examine the impacts of tourism development in two resorts in Northern Sulawesi, Indonesia. The impacts are grouped into three broad categories including physical, economic and social. They then provide an indication to examine changes caused by resort development as being positive (+), negative (-), mixed (-, +) and unchanged (blank) (Simpson and Wall, 1999). Though sustainable tourism is not discussed, the comparison based on a set of impact elements envisages different prospects of tourism development in these areas in terms of sustainability, which very much emphasize management and implementation process of development.

In 1993, the World Tourism Organization sponsored ‘ground-breaking research’ to test a list of potentially useful indicators of sustainable tourism. Case studies were carried out in Canada (Prince Edward Island), The Netherlands (a multi-regional approach),

Mexico (Los Tuxtlas) and the United States (The Florida Keys). The preliminary study suggests that the existence of a comprehensive planning process and implementation of natural resource management are among “important determinants” of sustainable tourism. The following set of core indicators was tested (WTO, 1996):

1. Site Protection
2. Stress
3. Use Intensity
4. Social Impacts
5. Development Control
6. Waste Management
7. Planning Process
8. Critical Ecosystems
9. Consumer Satisfaction
10. Local Satisfaction
11. Tourism Contribution to Local Economy

Besides, some destination-specific indicators were supplemented for evaluation in particular ecosystems. The selection criteria of site specific indicators include obtainability of data, understandability, temporality and comparability, predictive of sustainability and threshold value. These criteria basically agree with Kreutswiser's criteria as mentioned before. However, as part of WTO's initiative in developing indicators for sustainable tourism, these indicators are just ‘demand driven and respond to decision makers’ need to know” (WTO, 1996:11), which needs to develop further for an operational model of sustainable tourism. The case studies also suggest that subject to market failure in valuing the ecological functions of natural resources and most social indicators, the indicators of sustainability are not always quantifiable and may necessarily be subjective, however does not undermine their utility and usefulness to management for sustainable tourism (WTO, 1996).

It follows from the above discussion that sustainability cannot be absolutely quantified. It would therefore be erroneous to speak of sustainable tourism in emphatic absolute terms. We should not therefore refer to any situation as being sustainable or not. The notion then arises as would be of the cases here of a situation being more sustainable or less sustainable. More sustainable refers to the situation that tourism development meets most criteria of sustainable tourism (economic, socio-cultural and environmental), whereas less sustainable means that tourism development does not or only partially meet the sustainable tourism criteria.

It is interesting to note in sustainable tourism debates that more attention is paid on the sustainability at specific tourism destinations only. There is lack of concern on linkages and interactions between components of the tourism system as a whole. Clawson's model notes that the tourism system consists of home, the route and recollection to the destination, the destination and recreation activities at it, the return route and transportation. Therefore, it is not realistic for making tourism sustainable at the destination if it is not sustainable in the rest of the system (Marsh, 1993). It is also widely accepted that we cannot have sustainable tourism in a community or region which is unsustainable. Therefore, the practices within the industry, with the host community and with clients must be among the components to be considered in evaluating sustainable tourism (Bowes, 1993). Important for establishing links among these components of tourism system are responsible marketing and research for sustainable tourism.

Tourism business can not be successful without current information and feedback about its operation and matching between demand and supply. Marketing and advertising are increasingly important as powerful forces in the successful selling of any product (Eber, 1992). This is especially true in the tourism industry where the consumers (tourists) have to go to the “production site” for consumption. Accurate and sufficient information for tourists therefore plays a vital role in their visit decision-making. In New Mexico tourism is defined as an important industry, which “continues to diversify and strengthen a vibrant New Mexico economy (Moreo and Clements, 1995). However, “despite its natural beauty, New Mexico cannot sell itself” (Wall, 1997). One solution could be found in tourism marketing, which “...takes promotion, a coordinated effort...and money” (Wall, 1997). In contrast, over-promotion or lack of responsible marketing will cause disappointment of tourist image, or even negative impacts on host communities. The cases of marketing ecotourism in Khao Sok National Park in Thailand (Hardman, 1996), or ‘Hula marketing’ in Hawaii (Patterson, 1992), are listed among examples. For success of sustainable tourism, a suitable marketing strategy should be put in its right position.

A need to consider collectively all of the above dimensions of sustainable tourism provides the bases for establishing a theoretical framework for examining sustainable practices, and developing the criteria for monitoring and evaluating sustainable tourism development. With more focus on regional and local sustainable tourism, the World Wide Fund for Nature (Eber, 1992) suggests a sustainable tourism model of ten principles as guidelines for sustainable tourism planning and monitoring, which should

be incorporated into “everyday business life” for harmonious development¹. These principles embed the awareness of sustainability not only at policy and corporate levels, but more importantly, at the local level. The focus is on the enhancement of local participation, community capacity building and its roles in sustainable tourism development process.

In the Male Declaration (WTO, 1997c), tourism ministers and officials from 27 Asia-Pacific nations agreed on a 12-point plan, which embedded all of the above principles. This plan was given top priority in national tourism development policies. This commitment increases cooperation between tourism generating and receiving countries, improves awareness of sustainable development for local communities, and increases public-private partnerships for sustainable development. The sustainable indicators developed incorporating these principles, therefore, are expected to provide a more practical framework to evaluate and monitor sustainable tourism practices and their impact on sustainable development. This theory is used as methodology in this study.

All above reviews of literature reveal that tourism sustainability should be monitored in the following dimensions:

1. Spatial: sustainability should be evaluated differently at different levels of development
2. Time: reflecting not only current status, but also predictable future.
3. Quality: possessing economic, socio-cultural, environmental values
4. Process: continuity and forward looking.

¹ Detailed in Chapter 4.

With new and emerging roles of the tourism industry during the last decade, more attempts are required to identify the major policy issues which face the industry (Brent Ritchie, 1993). Research on tourism sustainability is a highly important, but very challenging task. This is because of the complex nature of sustainability itself, and the lack of reliable and available measurements over time for monitoring and evaluation. In addition, the practice of sustainable tourism is not only dependent on the industry itself, but also on other complex social economic and political environments, which often “...involve making hard political choices” (McIntyre, 1993). Butler (1993: 30) stated that:

The element of change in tourism is a crucial factor, since sustainable development implies some measures of stability and performance, at least in the long term view, and this does not blend with highly dynamic and consistently changing phenomenon such as tourism. It is necessary, therefore, to identify what elements of tourism are subject to change and determine if there are consistent aspects within this change.

Under this light, case studies have been the method for researching sustainable tourism development (Burr, 1995). Among prominent examples are cases of Maui, Hawaii (Farrell, 1990), Ladakh, India (Goering, 1990), Bali, Indonesia (Wall, 1993; APEC, 1996), and Hilltribes, Northern Thailand (Dearden, 1993). Though these cases have not determined a framework for sustainable tourism development, these studies provide experiences and lessons in dealing with policy and practical issues in sustainable tourism development. Visualizing practical applications of sustainability may be difficult. While the merits of comparative studies are acknowledged in tourism research, Simpson and Wall (1999: 284) note that “such studies constitute a very small proportion of the total and few concentrate upon the impacts”. They further argue that a number of

attempts in tabulating the consequences of tourism at different scales and types are useful but lack strong empirical support to be completely confident in the contents.

3.3 Summary

The concept of tourism quality incorporates economic, social and ecological aspects of tourism development which emphasize the benefits for different stakeholders and environmental well-being. A higher quality of tourism implies the significant contributions that tourism can make to tourism businesses, visitors and the local economy. Sustainable tourism cannot be guaranteed if social, cultural and natural environments are not well conserved and enhanced.

The extensive review of sustainable tourism principles and evaluation indicators indicates that most literature focuses on these at national and regional levels. A few have discussed sustainable tourism and evaluation at the site level, but the concept of sustainable tourism is rarely applied in daily business life. This suggests the need for further research in to the operationalization of sustainable tourism. The next chapter will discuss a conceptual framework and the operationalization of constructs/indicators of sustainable tourism. An evaluation framework for sustainable tourism evaluation will then be presented.

CHAPTER IV

RESEARCH METHODOLOGY

Understanding the dynamics and typology of tourism systems as well as the factors of change is essential for research on tourism sustainability. Equally important, the issues of measurement and time trend considerations are always challenging tasks in evaluating sustainable tourism, due to data availability and high costs in term of resources and time. This chapter will conceptualize the framework of sustainable tourism planning and monitoring, presenting the theoretical nexus of tourism planning, development and sustainable tourism. It further offers a comprehensive compilation of sustainable tourism principles and proposed indicators, from which an evaluation model can be developed and operationalized. The methods for data collection and data analysis as well as limitations and scope of the study will be discussed.

4.1 Conceptual Framework for Sustainable Tourism Planning and Evaluation

Sustainable tourism is not a status quo, but rather it is a process of change that depend on many factors, including operations within the industry itself and other external factors, such as social, economic and political movements, people's awareness and attitude toward the industry etc. The form of tourism development, the rate of changes and its impacts on the environment vary amongst the localities and stages of development.

Hitherto, it was widely accepted that well-planned and managed tourism development would enhance its positive effects and reduce negative impacts on the economic, socio-

cultural and natural environments. The fact is that tourism development is commonly concentrated in some areas, either populated areas or beach resorts or those with historical, cultural and natural heritage attractions. Questions on tourism development and its contribution to sustainable development therefore involve issues of dependency, integrity, diversity and equity. Sustainable tourism should not conflict with nor compromise the goals of sustainable development in general, but rather should contribute to achieving these goals. There has been much effort devoted to defining sustainable tourism. Most organizations (public/private) and enterprises have recognized and articulated sustainable principles with varying degree of commitment, regardless of what development approach they are following. Some research has been also done on whether sustainable tourism can be appropriate as a form of sustainable development, especially at a specific destination. However, there has not yet been an answer to the question: does sustainable tourism really work and how? Evaluating and monitoring sustainable tourism are challenging tasks due to its very complex nature, dealing with a wide range of development activities and different stakeholders. While the use of indicators is increasingly important to monitor tourism planning and development, little research effort has been devoted to devising a model with a framework of feasible and applicable indicators and measurements for evaluating and monitoring sustainable tourism, which has become a major concern in sustainable tourism research.

Given a commitment to sustainable tourism and the better implementation of sustainable tourism principles, the more sustainable tourism will be achieved. The question arises: how can sustainable tourism principles be operationalized in development and management practices? Theoretically, the key factor in this process is to bring about a

development agenda in which all aspects of development are taken into consideration for balance and growth, and all stakeholders and sectors are given opportunities to participate and contribute to tourism development. This will help anticipate conflicts in resource use among stakeholders in the development process, from which a 'problem avoiding' scheme can be derived for sustainable development. A 'win-win' strategy is supposed to be achievable through this approach to development. Equity is not only expressed in economic benefits for all stakeholders, but also in conservation and enhancement of environmental quality for the long-term benefit of everyone.

Sustainable tourism as a product or an end goal of tourism development is expected to furnish and promote sustainable development. By job creation and income generation, as well as infrastructure improvement, sustainable tourism will contribute to overall socio-economic development. Sustainable tourism creates markets to facilitate and encourage local economic development. Equally important, it helps enhance the awareness of the intrinsic and extrinsic value of socio-cultural, environmental and natural resources, through which proper resource use and management are encouraged. This becomes vital to sustainable development. The concerns of sustainable tourism are therefore not "removed" too far from those of sustainable development (Hunter, 1997). The congruence of multi-dimensional goals between sustainable tourism and overall development is an important feature that becomes a vehicle for sustainable tourism policy formulation and evaluation. Thus, given that trade-offs in development goals may be necessary in some cases, a set of monitoring indicators based on the above suppositions will be appropriate to evaluate sustainable tourism in terms of its contribution to overall development. This relationship is diagrammed in Figure 4.1.

Figure 4.1 Sustainable Tourism – Matching Goals

Source: Adapted from Sadler (1988)

Much literature on sustainable tourism covers different development scales ranging from global to regional. However, less theoretical discussion as well as practical development has been centered on sustainable tourism at the site destination level. As a pioneer, the World Wide Fund for Nature suggested a model of sustainable tourism to provide a theoretical basis for sustainable tourism planning and evaluation at the local level (Appendix 1). To contribute to sustainable development, the economic goal of sustainable tourism embodies development, growth and efficiency. It brings benefit to tourism businesses without compromising the economic opportunities and benefits for local people. Viewing the economy as a whole, tourism development should be decided on within the context of the cost effectiveness of other development alternatives. From the community perspective, tourism development and growth should not disrupt the

local economy, but rather promote economic diversification, equity and improved quality of life. The social and cultural goals of sustainable tourism emphasize promoting cultural integrity and social equity. Tourism should encourage cultural preservation and the enrichment of traditions, lifestyles, arts and crafts. It is concerned with equity in terms of opportunities and cost-benefit distribution to all its stakeholders. Tourism is also expected to respect the needs of individuals, genders, and species (bioethics) both at present (intra-generations) and in the future (inter-generations). Sustainable tourism is also concerned with ecological goals that aim to maintain the functional integrity of life-support systems and ensure sustainable uses of natural resources.

Though the opportunities and challenges in sustainable tourism vary with different approaches and stages of tourism development, the proper application of sustainable tourism principles throughout the development process is expected to meet the requirements for sustainable tourism development. The form of tourism development must facilitate and be based on the diversification of the local economy and tourism itself with environmentally sound development. In turn, it will enhance local control and inter-sectoral linkages, and reduce dependency and leakage from the local economy to outsiders. Once this state is reached, notions of equity, economically and environmentally, can hopefully be reached. These ideas are summarized in Figure 4.2.

The possible tourism development scenarios presented in Figure 4.2 are not intended to measure sustainable tourism development, but rather to map out the spectrum of tourism development as it relates to sustainability. This is useful for tourism policy makers and planners to evaluate and position their development strategies in specific social,

economic and political contexts. Especially when a trade-off has to be made between development goals, this provides an insight into more sustainable development options.

Figure 4.2 Hypothetical Evaluation Matrix of Potential Sustainable Tourism
Source: Author (1997)

4.2 The Evaluation Framework of Sustainable Tourism

Eber’s sustainable tourism model offers guidelines for sustainable tourism planning and monitoring at a destination. Several principles are detailed regarding management practices, such as “maintaining diversity” and “reduced over-consumption and waste”, which are closely related to “using resources sustainably”. This extension may help to emphasize the principles, given their importance to sustainable development. However, the argument is that the overlap will make tourism planning and monitoring more complicated because of repetition of practices and indicators. Moreover, in most cases the limited resources and time devoted to research are the main barriers to making a comprehensive model possible in the real world, because of its complexity in terms of scale and interdisciplinary coverage. Taking these into account as the desirable criteria

in developing the sustainable indicators mentioned earlier, an evaluative framework is necessary to make the model less complicated but valid, practical, applicable and replicable. The framework for an evaluation of sustainable tourism must reflect the imperatives of sustainable tourism, that is the congruence between economic, socio-cultural and environmental goals for better community and ecological well-being. Failure to meet any of these goals will sooner or later produce less sustainable tourism. The theoretical relationship between the evaluative framework and Eber's model is presented in diagram form in Figure 4.3.

a. Sustainable resource use and environmental management: For a resource-based industry, sustainable use of resources is imperative for the long-term benefit of business. Tourism development must take care of the balance between using and conserving resources, both natural and man-made. This requires maintaining the integrity of ecological and cultural environments. Therefore, indicators are proposed to measure the level of resource use and conservation, environmental management practices, and major impacts of tourism development on carrying capacity and authenticity (Eber, 1992; Marsh, 1993; Smith, 1995; APEC, 1996; WTO, 1996).

b. Economic benefits and opportunities: To be economically sustainable, tourism development should enhance the well-being of the local economy, which includes both opportunities and access to and distribution of the benefits/costs of tourism development. All stakeholders (groups, organizations, sectors and individuals) who may be affected by and interested in tourism development, should be given access to tourism employment and training, as well as the benefits from tourism development Marsh,

1993; Harris and Nelson, 1993; Wallace and Pierce, 1996). The indicators are proposed mainly to evaluate benefits to tourism businesses (growth, efficiency and value) and to the local economy in terms of economic diversification, job creation and income generation for local residents.

Figure 4.3 The Relationship between Sustainable Tourism Principles and Evaluative Methods

Source: Author(1997)

c. *Social and cultural impacts*: Tourism development brings about diverse impacts on the social and cultural environment. Tourism cannot be sustainable if it disrupts and degrades the social fabric and local culture. This is not only because of the need for compatibility with the environmental context in which tourism develops, but also conservation of culture as a tourism asset or resource. It is always a challenge to measure or quantify all these changes or impacts. However, the residents' perception of and attitude toward tourism are known to be among the valid constructs/indicators for an evaluation of social and cultural impacts (Schneider, 1975; WTO, 1996)

d. *Policy and planning*: As political and institutional factors in sustainable development, evaluation of the availability and implementation of policy and planning are important to sustainable tourism. Responsibility for and commitment to sustainability cannot be generated for building up partnerships without integrated planning and participation of all stakeholders (Payne, 1993; Murphy, 1994; Inskeep and Kallenberger, 1992; David, 1994; Bui and Smith, 1997; WTO, 1996). In addition, planning of human resource development should be recognized as a vital factor to the tourism business, which is highly competitive in nature. Training and upgrading the staff are necessary to improve the quality of tourism products and services to meet the increasingly complicated demands of tourists nowadays. However, there are many constraints to training activities in tourism firms including costs, poor image of career, lack of prospects, etc. These mean that the training activities are usually still far behind the needs of the tourism industry. This calls for the support and efforts of public and private sectors. However, more investment and effort should be made at the business level. Important constructs for evaluation can be the availability of active incentive policies regarding resource use

and environmental conservation, local-business partnerships, integrated planning and public participation, training opportunities and investment in staff training.

e. *Marketing and research*: Sufficient efforts in destination marketing and research activities are needed in this highly competitive industry. Lack of ethical marketing and inefficient information for visitors may cause misunderstanding and disappointment among tourists with the tourism destination, or reduce tourist satisfaction. It may also lead to negative impacts on attitudes or behavior of both tourists and the host community, and increase the level of guest-host irritation (Eber, 1992; APEC, 1996; Hardman, 1996). These will nullify the efforts towards sustainable tourism development. In addition, research and information are required for the on-going process of tourism product development, improvement of tourist satisfaction, environmental impacts assessment, etc. Given the importance of marketing and research activities, indicators should be developed and made applicable for sustainable tourism planning and monitoring, which include investment in marketing and research activities, and adequacy of marketing information, visitor education, marketing and research collaboration.

The evaluation framework is elaborated in Table 4.1, which summarizes the principal practices for sustainable tourism and proposed indicators for evaluation and monitoring. Of critical concern in sustainable tourism is what form(s) of tourism will be more sustainable than others. It is generally accepted that sustainable tourism must be economically viable, culturally acceptable and have ecological integrity. None of these requirements are more important than others. In other words, sustainable tourism can be achieved only if it meets all these imperatives of development. Therefore, several

theoretical assumptions underlying a sustainable tourism model can be described as follows:

- Premise 1: All principles are equally important in contributing to sustainable tourism development.
- Premise 2: Sustainable tourism can be obtained only if economic, social-cultural and environmental goals are met.
- Premise 3: This model is applied to sustainable tourism at specific tourism destinations.

The sustainable tourism model may be idealistic and difficult to fully evaluate in reality, no matter how detailed the indicators are. However, it is useful in providing a clear theoretical framework for defining forms of tourism development which are more sustainable than others. Hence, it represents a contribution to the debate about sustainable tourism planning and management, which is in search of a well-established theoretical base and empirical evidence. The notion is that a trade-off between sectors may be necessary in pursuit of development goals and objectives, which should be taken into account when formulating the indicators for sustainable tourism at a specific destination.

Table 4.1 The Evaluation Framework of Sustainable Tourism

Practices	Constructs/Indicators	Analysis	Evaluation Methods
a. Sustainable resource use and environmental management Physical development	1. Accommodation density (room/ha) 2. Site coverage (% of built area) 3. Environmentally sensitive design 4. Beach capacity (meters of coast/person) 5. Load factor 6. Accessibility	Site stress and potential social impacts	- Case and standard comparison
Diversity	1. Road green cover (trees/km of road) 2. Public green cover (m ² /bed) 3. Change in fauna, flora	Environmental, cultural impacts	- Time trend
Salient environmental impacts	1. Soil and beach erosion prevention 2. Ecoli (water pollution index)	Critical environmental impacts	- Case and standard comparison
Environmental management measures	1. Solid waste managed (%) 2. Waste water treatment (%) 3. Water saving practices 4. Energy saving practices 5. Recycling practices	Environmental protection	- Case comparisons
b. Economic benefits and access: Local residents	1. Job opportunities (local vs. foreign) 2. Income generation	- Economic sustainability	- Time trend - Case comparison
Business	1. Tourism arrivals (% growth) 2. Occupancy rate 3. Tourist expenditure 4. Profitability (% of firms)		
Local economy	1. Tourism revenue (% growth) 2. Local ownership (%) 3. Economic diversity (% employment) 4. Range of local sale items (%)	- Local control and involvement	- Case comparison
c. Socio-cultural impacts	1. Cultural preservation 2. Promotion of arts and craft production 3. Crime incidence 4. Congestion 5. Improving overall quality of life	- Socio-cultural sustainability	- Time trends - Case comparison
d. Policy and planning : Local involvement	1. Planning integration 2. Public participation 3. Institutional arrangement	- Social sustainability	- Case comparison
Human resource development	1. Staff training (% trained staff) 2. Environmental awareness training	- Social and economic sustainability	- Case comparison
e. Marketing and research Responsible marketing	1. Promotional literature 2. Accuracy of destination literature	- Sustainable management (conditions for long-term business success)	- Expert opinion
Impact research	1. Environmental Impact Assessments (EIA)		- Case comparison
	2. On-going research (environmental auditing and monitoring)		
Market research	3. Destination market research 4. Information accessibility		

Source: Author (1997)

4.3 The Research Hypothesis

It is hypothesized that *ad hoc* tourism development as represented by beach resorts in Southeast Asia does not result in sustainable tourism. The hypothesis is examined through the three following propositions:

1. *Ad hoc* tourism development fails to use the resources sustainably.
2. *Ad hoc* development degrades environmental integrity and diversity.
3. In an *ad hoc* development approach, lack of proper planning, public participation and marketing undermines sustainable tourism.

4.4 Operationalization of Constructs and Indicators

As discussed above, sustainable tourism evaluation is a challenging task due to the complexity and interdependence among economic, socio-cultural and environmental factors. A vast amount of quantitative and qualitative data on tourism performance over time and its impacts is needed for evaluating sustainable tourism at a destination. Within this research framework, data are classified into three categories, namely industrial baseline data and other economic profiles; indices of environmental management practices and impacts; and community perception of tourism. Searching the secondary data and previous research on baseline data such as tourist arrivals, development density, occupancy rates, tourism revenue, profits to business, job creation, etc. is crucial to the research to sketch the trends or historical profile of tourism performance and development patterns in destination areas. Information about practices of

responsible marketing and research were obtained from management and expert opinion in the field survey.

The indices of environmental impacts and management practices were collected from hotel management, tourism-related enterprises and related agencies in a cross-check with direct field observation, historical topographic maps and resident opinion. The indicators of environmental changes, such as ambiance change and biodiversity, were obtained from Environmental or Public Work Departments as well as related government and research reports, field interviews with long-stay local residents and field inspection. The carrying-capacity-related data (as proposed in Table 4.1) were calculated based on available data and compared with the standard/desirable practices and among the cases.

The data on perception of the host community were collected from the questionnaire survey. The respondents were asked to give their evaluation or perception of statements by filling in a 7-point Likert scale (1-totally disagree to 7- totally agree). The indicators in this category include local and business perceptions of policy and tourism planning practice, and tourism impacts on the socio-cultural and natural environment as well as overall quality of life. This helps an understanding of the local attitudes towards and support of tourism development.

In addition, it is important to understand the evaluation of key actors of their sustainable tourism practices, their impacts and constraints. The information was collected in each case by a questionnaire survey of tourism business representatives as well as tourism

government bodies. Key actors were asked to note the level of their agreement based on a 7 point-Likert scale (1-totally disagree to 7- totally agree) with the statements in the questionnaire, which covers sustainable tourism practices and factors affecting these practices. Synthesizing all indicators into an overall picture is then necessary for the evaluation and monitoring of tourism sustainability.

4.5 Selection of the Study Site and Data Collection

4.5.1 Site Selection

The Southeast Asia region with its high cultural, economic and environmental diversity coupled with (until recently) a high rate of economic development which has been associated with the tourism boom, makes it a particularly appropriate location for an examination of the characteristics and effects of tourism development (Hitchcock, et al, 1993). Beach resorts have been recognized as popular tourism domains in this region. They have provided not only extensive tourism and recreational activities to cater for the tourists' demand, but also job creation and income generation for host communities. However, with fast-growing tourism activities in beach resorts and in forms and scales of development, the impacts of tourism on economic, socio-cultural and natural environments have been more evident. Thus, the region offered a wide choice of beach resorts to select from for the purposes of the research.

Integrated tourism development is considered a more sustainable tourism development approach as explained in Chapter V and the case of Laguna Phuket integrated beach resort (Phuket, Thailand) was used to calibrate the proposed sustainable tourism model

which was then tested against the cases of *ad hoc* development for its validation. Application of the model then helps to evaluate tourism development practice in terms of sustainability in *ad hoc* beach resorts, as a typical development approach in Southeast Asia, and to search for solutions to the problems of sustainable tourism development in the region (The maps of the study sites is presented in Appendix 2).

Three well-established beach resorts were selected for testing in this study, including Patong (Phuket, Thailand), Doson (Haiphong, Vietnam), and Batu Ferringhi (Penang, Malaysia). By definition, these cases are *ad hoc* beach resorts and also well-known national and international destinations. Except for the case of Doson resort, there have been some studies of these resorts in recent years (Smith, 1989; Gonzales, 1996; Pearce, 1997). However, none of these studies has given a comprehensive evaluation of sustainable tourism development. The research is therefore needed to examine how the model of sustainable tourism can be implemented and evaluated in different development contexts in Southeast Asia.

It is important to note that the identification of a resort boundary is necessary in sustainable tourism studies. As defined by Metelka (1990), a resort is “a geographic or business area offering a variety of facilities, services, and activities for the accommodation, use, and enjoyment of visitors”. Though it is not easy to draw a clear boundary around any resort in terms of its impacts on overall development, the boundaries of resorts in this study refer to the formal administrative boundaries of the city or town as a unique destination.

4.5.2 Data Collection

The methods of data collection include review of statistical sources, previous studies, questionnaire surveys, interviews and field observation, which are elaborated below.

** Secondary data:*

Data on the overall demography and development profile of selected sites were collected from the Tourism Promotion Board or Tourism Development Committee and related government departments to provide an overall picture of the development history of the sites. The information on regulation and legislation, databases on level of resource use, standard use at macro level or critical values as well as related previous studies were collected for case analysis purposes. Data on baseline indicators and economic profiles were obtained from formal tourism statistics and business records.

** Primary Data*

The primary data were collected from government bureaus, tourism administrators, hoteliers and tourism-related operators. The questionnaire survey was carried out during the summer of 1998 (from April to July). The questionnaires were designed based on the principles and constructs/indicators of sustainable tourism to capture the people's perception and evaluation of tourism development and its impacts on the local environment. The questionnaires have two parts: (1) Level of addressing sustainable tourism principles and factors affecting sustainable tourism practices (sections A and B - Appendix 13 - for survey of key actors); (2) People's perception and evaluation of

socioeconomic, cultural and environmental impacts (sections C and D - Appendix 13 for survey of local residents).

The reliability issue was addressed when designing the questionnaires. The questionnaires were sent to academic experts and practitioners inside and outside

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Table 4.2 Sample Size and its Components

Categories	Laguna Phuket	Patong	Batu Ferringhi	Do Son	Total
1. Industry respondents:	32	54	35	49	170
Hotel operators	16	36	18	34	104
Administrators	6	6	4	6	22
Restaurants	5	6	8	7	26
Developers	1	2	2	1	6
Tour Operators	4	4	3	1	12
2. Resident respondents	52	74	68	75	269

Acknowledging that there is likely to be a diversity of views in a community (Murphy, 1985; Madrigal, 1994), the respondents from amongst local residents were selected by using random sampling techniques at the sites. Interviews with tourists for an evaluation of their needs were omitted, because it was not possible to include an adequate sample of tourists given the short time of the study and limited resources. However, there are substitutes for such an evaluation, to some extent, including a review of indirect indicators such as trends in tourist arrivals, occupancy rates and length of stay.

4.6 Data Analyses

To test cases against the proposed theoretical model of sustainable tourism, the comparative study method was used for case analyses of sustainable tourism practices in different contexts for development. Warwick and Osmeron (1975:7) suggest that comparison in its broadest sense is the process of discovering similarities and differences among phenomena”, which is more than simple combination of case studies. Three approaches to comparative studies suggested by Pearce (1993) including comparative case studies, element-to-element comparisons and quantitative analysis are suitable to this study. The evaluation method was based on a time dimension for

baseline indicators and case comparisons as well as reference to standard practices or critical values, where applicable. The comparisons help not only to explain tourism development at specific destinations in terms of its sustainability, but also to generalize the common practices as well as problems in sustainable tourism development.

Implications and suggestions for planning and management of sustainable resorts can be drawn from these analyses and evaluations.

Connected to the research objectives (Chapter I), the data analysis includes two main parts: (1) understanding the level of practicing sustainable tourism principles and factors affecting the application; (2) evaluating resort development in terms of its sustainability (sustainable tourism product) via the proposed set of indicators. The first part is based on comparative case studies to find the development pattern of *ad hoc* tourism as typical development approach in the region, sustainable practices as well as major factors affecting the practice. The second part of data analysis focuses on establishing an operational model of sustainable tourism. Three approaches were employed for this purpose: comparative case studies, element-to-element comparisons and quantitative analysis. The selection of these approaches was grounded in Leichter's conclusion that, four stages may be involved in the process of theory building, including problem selection, systematic observation, generalization and explanation (Leichter, 1979). The proposed framework were calibrated and then employed to evaluate sustainability of current tourism development practices in three *ad hoc* cases.

As mentioned above, a wide range of relevant data and information was collected through the questionnaire survey. Factor analysis was applied to summarize the data from the questionnaire survey into manageable format so as to identify major factors related to practicing sustainable tourism and its impacts on socio-cultural, economic and physical environments at the site level. The data obtained from factor analysis provides supplementary information of people's perception and evaluation regarding sustainable tourism practices.

Before and after running factor analysis, reliability tests were carried out to check inconsistency of responses. The principal component analysis with *varimax* method for orthogonal rotation was used as the factor extraction method. The Kaiser's criterion was applied as the extraction rule, i.e. selection of those factors with an *eigenvalue* of greater than one. Loadings of less than 0.5 were excluded because they were considered insignificant in explaining the factor they loaded in. The summary of factor analyses of people's perception of sustainable tourism practices and its impacts was presented in Appendix 14. The factor solutions for each case are summarized in Appendix 15, 16, 17 and 18 for the survey of business representatives, and Appendix 19, 20, 21 and 22 for the survey of residents. The analysis of variances was carried out to facilitate the comparison among the cases. However, there were some variations between sites in loading of variables into the hypothesized factors, comparison of means did not include the cases, which did not have the same factor structure.

4.7 Scope and Limitations

In common with any research, the limited resources including finance, time and manpower must be listed as the first among other constraints on the scope of research. The budget and time limitation has directed the research to a series of selected beach resorts as one of the major forms of tourism development in Southeast Asia. Except for the case of Doson resort (Vietnam), other resorts have been studied and documented to varying extent. This study can thus benefit from the data and information on tourism impacts and performance of baseline indicators over time without compromising the reliability and validity of information. Given that the concept of sustainable tourism implies a long-term perspective and has a very complex nature, this study can only be

case of Batu Ferringhi resort (Malaysia) because most local people

CHAPTER V

THE STATUS OF SUSTAINABLE TOURISM DEVELOPMENT IN INTEGRATED BEACH RESORTS

Since the last decade, several beach resort developments in Southeast Asia have followed the integrated approach, which has shown many advantages over other approaches in terms of its sustainability. This chapter presents an overview of integrated beach resort development and its perspectives in the region. It further examines and evaluates the status of sustainable tourism for this type of development.

5.1 Integrated Beach Resort Development - A Strategic Choice for Sustainable Tourism Development

5.1.1 Integrated Beach Resort Model

The integrated resort concept is associated with a well-planned and integrated development strategy, which not only pursues long-term business goals, but also economic, socio-cultural and environmental goals. Smith (1992: 50) defined integrated beach resorts as "totally planned environment with a number of hotels that share elements of infrastructure, recreational features and other facilities." The concept of an integrated development embodies an integrated high-quality tourism complex with self-contained recreational and commercial facilities targeted at higher expenditure tourists (Inskeep & Kallenberger, 1992; Smith, 1997). Central management and control distinguish the integrated resorts from other forms of beach resorts, which create advantages through achieving economies of scale as well as consistent ambiance in these resorts as a whole. It also brings in opportunities to avoid social, economic and environmental negative impacts, which prevail in unplanned and *ad hoc* resort development.

Stiles and See-Tho (1991), in their study on integrated beach resort development in Asia and the Pacific, observed that “The Asian pattern for integrated beach resorts includes projects comprising two or more hotels with shared infrastructure, common areas, and recreational as well as other facilities”. Though this may put more emphasis on the physical structures of the integrated resorts, the argument consists of the central idea of developing integrated resorts which share elements to maximize economies of scale. Cooperation and integration in resort management are vital for the success of the integrated resort. By its very nature, the integrated concept requires more participation and involvement from different stakeholders, which is not a problem theoretically, but presents challenges for practical adoption and implementation.

Inskeep and Kallenberger (1992) suggested that the only way to avoid environmental problems and ensure sustainable development is to establish a partnership between government and operating sectors to ensure an integrated approach to the resort’s development. Over a period of time, monitoring and control are necessary to ensure the concept is adapted to different circumstances.

While the above definitions of integrated resorts put more emphasis on the physical development of integrated beach resorts and its advantages over other forms of beach resort development, the social, institutional and environmental interactions are overlooked. In line with acute concerns for sustainable tourism development, the integrated approach to resort development is recommended as a sustainable development strategy. It is planned within a framework of regional environmental, economic and socio-cultural settings with adequate infrastructure and access, human

resources and ethical marketing as well as effective leadership and coordination among stakeholders.

The WTO's study on six resorts through the world conducted in 1990-1991 indicated that the success of the resorts is largely attributed to implementation of an integrated approach to resort development. This approach is designed to engender balance and harmony in development and helps prevent serious environmental, socio-economic and marketing problems associated with *ad hoc* tourism development (Inskeep & Kallenberger, 1992).

The same evidence was given by the study on environmentally sustainable tourism in APEC member countries conducted by the APEC Tourism Working Group in 1996 in Nusa Dua resort, Bali (Indonesia) and Whistler resort in British Columbia (Canada). It

confirmed the supposition that well-planned development is the major factor contributing to the success of these resorts, where tourism development is economically viable, and socio-culturally and environmentally sustainable.

Supporting these arguments, several other studies have taken the cases of Nusa Dua (Indonesia) and Laguna Phuket (Thailand) resorts as leading models of integrated resort development in the Southeast Asia (Smith, 1992; Wall, 1993; Gonzales, 1996).

These studies showed that the integrated resort model has brought improvements of tourism development toward achieving overall goals of sustainable development.

However, there is increasingly concern whether the self-contained nature and exclusion of other development activities within the resort boundary will weaken the

linkages to local communities and the surrounding environment. The Nusa Dua resort is a case in point.

Nevertheless, to date it is commonly thought that integrated resort development does alleviate the causes of socio-cultural and environmental problems, moving tourism development toward sustainability (Inskeep, 1991; Wall, 1993; McIntyre, 1993; Boyd & Butler, 1997; Smith, 1997). Stiles and See-Tho (1991) summarized three important advantages of the integrated beach resort model for investors, developers and operators including synergy, critical mass and control. The central point is the opportunities to save in the costs of development and marketing to promote the resort in the international market and, hence, enhance the competitive advantages of the resort.

Following these discussions, it is appropriate to take a further step to operationalize and evaluate a sustainable tourism model at the destination level, and to assess the advantages and disadvantages of an integrated development approach as well as its future in a new millennium of tourism development.

5.1.2 Integrated Beach Resort Development in Southeast Asia

The literature review on beach resort development in Southeast Asia shows that though beach resorts have become popular in the region, most of them have been developed in an *ad hoc* or *laissez-faire* manner. As a consequence, they tend to deteriorate over time due to lack of a workable plan for overall resort development (Smith, 1992). Many well-known and established beach resorts in the region have

suffered from social, economic and environmental problems such as traffic congestion, crime, beach erosion and sea pollution, loss of fauna and flora etc. Amongst these are Pattaya and Huahin resort (Thailand), Kuta resort (Bali, Indonesia) and Batu Ferringhi (Malaysia).

Given the advantages of integrated beach resort development, many efforts have been devoted to developing integrated beach resorts in this region since the early 1970s. Prominent amongst these are Nusa Dua resort in Bali and Bintan International Resort in Riau (Indonesia), Desaru International Resort in Johor (Malaysia), Laguna Phuket in Phuket (Thailand), and Furama resort in Danang (Vietnam). Following this movement, many other integrated beach resorts are being planned and developed around the region, which furnishes a new perspective on resort development in Southeast Asia for the future. However, the evaluation of integrated beach resorts in the region is still very limited. There is a need to understand the planning, implementation and evaluation of integrated beach resorts as a model for sustainable development.

5.2 Laguna Phuket Resort – A Sustainable Tourism Development Model

5.2.1 Laguna Phuket Resort: Development and Operation

Phuket, situated off Thailand's south-west coast in the Andaman Sea, is Thailand's largest island and the second international gateway to Thailand. Traditionally, tin-mining had been the main livelihood in Phuket. Medieval traders had started their tin trading in Phuket by the 16th century, and tin mining had assumed a prominent position in Phuket from the late 19th century. At that time there was an influx of

Chinese immigrants who undertook widespread exploration. The boom period was very short 1978-1980 when Thai tin slag accounted for 30 percent of the world's supply. However, since 1981 the eastern side of Phuket island had been exhaustively dredged. Two large dredgers started exploring the sea-bed of Karon and Patong bay, which threatened unspoiled beaches in Phuket. There emerged a series of public protests against tin mining. Finally, the government shut down the tin dredgers and freed Phuket beaches for tourism. In 1977 tin contributed more than twice as much as tourism to the Phuket economy. This ratio was reversed in three years. By 1985, tourism had become very important to Phuket, when prices of worldwide tin dropped by 50 percent. There was continuous social agitation against tin mining for environmental reasons (Eckardt, 1998).

Laguna Phuket resort occupies a 1000 acre site in Thalang district, the western side of Phuket island, with six large lagoons and 3 kilometers of natural beach on the Andaman sea. It was developed by owner-developer Thai Wah Resort Development Public Co. Ltd. of Bangkok (TWRD) from the mid 1980s. The resort started with the first property of the 226 room Dusit Laguna Hotel opening in 1987. The capital investment in the resort was approximately USD200 million, the largest single investment in Phuket. Despite political unrest in Thailand in the early 1990s and the consequent economic recession, which temporarily caused adverse impacts on resort development, the commitment of TWRD to Laguna Phuket was consistent. Since 1994 the resort has operated with 5 hotels (total of 1160 rooms), an 18-hole golf course, a shopping center and an outdoor management training center (Quest Adventure).

The resort was developed based on the concept of an integrated resort with centralized management, which makes the resort unique among other resorts in Phuket in particular and in Southeast Asia in general. By the centralized management system, Laguna Phuket has efficiently managed its properties. In 1991 the Laguna Service Company (LSC) was established with initial capitalization at USD3 million to provide a range of services for the entire resort: water supply, transportation, security, landscape, laundry, storage, maintenance, waste treatment, etc. This centralized system helps maximize economies of scale and ensures sound environmental operation in the resort. Though each property serves a well-defined market niche, its guests can use the services from any other hotel and club within the resort, which is marketed as “*Stay in One – Play in All*”. The resort also provides shuttle carriers (mini-buses) for transportation of the hotel guests within the resort boundary.

Recognizing the severe social and environmental problems of past and current development in Phuket, the developer has manipulated the concept of environment in two dimensions: the physical environment and human environment. The social and cultural dimensions have become high priorities in resort management. To some extent, the concept of integrated development is self-contained and has reduced impacts on local communities. However, this is not the case of Laguna Phuket. While developing the tourism facilities to cater for the high-end tourist market, Laguna Phuket has taken great care to ensure benefits to its staff and local people through provision of housing and facilities to staff, employment to local people, assistance to local farmers and support to community projects (Piprell, 1997). This effort has narrowed the disparity in lifestyle between guest and host and has had a very positive

effect on staff morale and work responsibility, as well as local attitudes toward tourism development.

In 1992, the Laguna Phuket resort won the Environmental Award from American Express and The International Hotel Association (IHA) for its environmentally sound development of tourism. The award recognized the restoration and integrated development for tourism of a former devastated tin mining site; maintaining Thai cultural traditions; extensive landscape using indigenous species; effective use of waste water treatment and conservation; significant provision of employment for the local community and good staff conditions; and integration with small local tourism enterprises.

5.2.2 Evaluation of Sustainable Tourism in Laguna Phuket Resort

a) Sustainable Resource Use

The evaluation of resource use and environmental management will be made on the bases of practices in the physical development of the resort, accessibility, biodiversity, environment management practices and salient environmental impacts. The key indicators then will be selected to recommend as a basis for planning and monitoring of sustainable tourism development. Data were obtained from published and unpublished documents, management, field survey and field inspection.

- ***Physical development***

The intensity of physical development in the resort plays an important role not only in creating the visual effect of the resort's image, but also efficient use of resources.

High density of development of hotels and service facilities will commonly cause negative effects on the natural environment. In this study, the density of physical development was evaluated based on several key indicators including accommodation density, site coverage, beach capacity and load factor (Table 5.1). The accommodation density and site coverage were used as spatial intensity indicators, and the load factor¹ used for assessment of temporal intensity or seasonal efficiency of resource use. In order to calculate the accommodation density ratio and site coverage, the site area was obtained from management, the building area (plinth area) was obtained from management and verified by field inspection.

Table 5.1 Physical Development Density

Indicators	SP	CA	ST	Remarks
1. Accommodation density (rooms/ha)	≤34	25.6		20% lower than standard
2. Site coverage (%)	≤28.7	19.6		Desirable practice
3. Beach capacity (meter of coast /person)	≥1.5	1.8		No beach congestion
4. Load factor (site stress)	1.0	0.84		Low site stress in peak season

Notes:

- a. SP - Sustainable practices; CA - Case; ST – Sustainability
- b. For SP, Baud-Bovy and Lawson (1998), of which:
 - Accommodation density and site coverage for beach resort with closely grouped.
 - Beach capacity (meter of coast per person) is defined for resort of deluxe standard with 20 meters depth of beach

Key: Less sustainable More sustainable

The accommodation density in Laguna Phuket resort was 25.6 hotel rooms per hectare and the site coverage was approximately 19.6 percent of total area, compared to 34 rooms per hectares and 28.7 percent, respectively (with assumption that Laguna Phuket is a closely grouped resort with low rise buildings and in clusters). A high beach capacity of 1.8 meters of coast per person compared to 1.5 meter of the

¹ Load factor is defined by ratio between average occupancy rate and highest occupancy rate, which indicates the seasonal inefficiency and site stress during the peak season.

standard for deluxe beach resort shows a low level of beach congestion in Laguna Phuket. These indicate an acceptable level of spatial density of development in Laguna Phuket. The load factor was 0.84, which manifests the high seasonal efficiency of resource use of the resort and low site stress during the peak season.

- *Environmentally sensitive design*

Table 5.2 Environmental Sensitive Design

Indicators	SP	CA			ST	Remarks
		1	2	3		
1. Image	Thai architectural features	100	100	100		100% properties practiced desirably
2. Landscaping	Greening and conserving natural features	100	100	100		100% properties practiced desirably
3. High water set-back limit (meters)	≥ 50	>50	>50	>50		Good practice
4. Energy saving designs	Natural ventilation, energy saving lighting, reduce use of air-cons, auto switch-off system	100	70	80		Most properties practiced desirably

Notes:

- a. SP - Sustainable practices; CA - Case; ST – Sustainability
- b. Use classifications: 1. Hotels; 2. Restaurants; 3. Shops
- c. Baselines: Eber (1992); APEC (1996)
- d. Data are percentage of firms which have practiced at least two measures

Key: Less sustainable More sustainable

The environment (natural and built) is a principal component of tourism attractions and needs to be protected and conserved if the tourism industry is to be sustainable. The emphasis is on protecting the natural environment and respecting local people's needs, their culture and traditions (Eber, 1992). Environmentally sensitive design therefore requires the developers to understand the value of the natural environment, and the practice largely depends on regulatory effectiveness (APEC, 1996, Baud-Bovy & Lawson, 1998). Table 5.2 summarizes the practices of environmentally sensitive design and landscaping in Laguna Phuket resort. Based on the discussions

with experts and practitioners during the field survey, the evaluation was graphically made as "less sustainable" if there was less than 30 percent of the resort's properties applied at least two measures; "indeterminate" if there was less than 60 percent of the resort's properties applied at least two measures; and, "more sustainable" if there was more than 60 percent of properties practiced at least two measures.

One prominent feature in the physical development of Laguna Phuket resort is environmentally and culturally compatible and complementary design. Low-rise architecture throughout the resort is a fundamental feature applied to conserve Thailand's rich historical architectural heritage. No building here is higher than three stories, about the height of a coconut tree, which helps create harmony with the natural environment. Landscaping with Thai traditional gardening was found in all properties. The traditional Thai wood carving, woven rattan furniture and fabrics were used extensively for interior design in all 5 hotels and 30 restaurants and shops. Other Thai ceramics, sculptures and artworks and floor tiling were used for interior decoration.

In addition, each resort component was designed for variety to avoid dull homogeneity so as to enhance its unique image for different up-market segments. These architectural policies help not only to reduce the economic leakage that may arise from the import of exotic decorative arts from other countries, but also conserve and enhance Thai traditional art and crafts production. The set-back limit, which helps preserve the public beach access and prevent beach erosion, is proposed differently from case to case, but at least 50 meters from the high water line (APEC, 1996, Baud-Bovy and Lawson, 1998). In the case of Laguna Phuket, the set-back from the beach

is more than 50 meters but there is concern about the lagoon because many properties stand right on the lagoon which may cause lagoon erosion. The resort developer was also very aware of energy saving design. Except for some restaurants and gallery outlets which used air-conditioning, most properties applied natural ventilation schemes in front house, automatic switch-off systems in hotels, anti-heat roofing, energy saving lighting bulbs etc. These help not only to create a friendly environment but also to save on the operation costs which will be discussed below.

• *Resort Accessibility*

Table 5.3 Resort Accessibility

Indicators	SP	CA	ST	Remarks
1. Accessibility for international tourists	- International access and availability	12 Airlines with 36 flights per weeks >32% tourist arrivals		- Easy access - High airport capacity
2. Accessibility for domestic tourists	- Easy accessibility and comfort	Easy access by air and road, comfortable services		Easy access and good services
3. Day trippers/ residents: - Transport - Public amenities	- Good internal circulation and comfortable services - Available tourist information, phone booths, public toilets, car park, signages, beach access.	- Easy access by bus, taxi, ferry/express boat - Resort provides transportation services within resort and to other neighboring resorts - Good public amenities		- Self-contained nature - Free beach access for locals

Notes:

- a. SP - Sustainable practices; CA - Case; ST - Sustainability
- b. Baselines: Eber (1992); Baud-Bovy and Lawson (1998).

Key: Less sustainable More sustainable

As a component of the tourism system, transportation services and accessibility play an important role in sustainable tourism development. Easy access and good transportation services will facilitate the tourist flow to a destination. Good transportation also contributes to tourists' satisfaction with tourism products. The analysis of accessibility to Laguna Phuket can be found in Table 5.3.

Phuket is Thailand's largest island, linked to the mainland by a causeway and accessible by road and by air. The Phuket international airport has direct links with many countries in Europe and within the region to Hong Kong, Malaysia, Singapore, Japan etc. There are 12 international airlines that come to Phuket with 36 flights per week. Visitors can also use coach services from Bangkok or Malaysia to Phuket. The opening of North-South Highway has especially encouraged more visitors coming to

Phuket via road. Located in the northwest of Phuket island, Laguna Phuket is easily accessible by taxi or bus/coach from Phuket town, which are available at 15-minute intervals and it takes around 30 minutes to get to Laguna Phuket, and 20 minutes from Phuket international airport. Phuket is a gateway for many international tourists to enter Thailand. The TAT reported that in 1997 there was an increase of 6 percent of tourists using Phuket as gateway to Thailand compared to 1996. A project costing almost USD20 million (500 million baht) for the improvement of Phuket airport was going on, which was expected to be completed by 1999. With the completion of this project, Phuket international airport will be able to handle up to 5.1 million passengers annually, which is nearly twice the demand of 2.8 million air travelers in 1996.

Likewise, Laguna Phuket is easily accessible for domestic tourists by air, road or ferry/express boat with very convenient and good services. The Thai Airways International provides 13 flights daily from Bangkok to Phuket and 16 flights daily Phuket to Bangkok. In addition, Bangkok Airways provides daily 2 flights from Samui to Phuket. The visitors can also go to Phuket by ferries or express boats in connection with other islands of the southern provinces of Thailand. These have facilitated a greater inflow of domestic tourists and day trippers to the resort. Laguna

Phuket resort has provided its guests with bus services of shuttle carriers (minibus) for internal circulation and to other neighboring resorts. Though the resort is self-contained, the beach is open access to locals.

• Biodiversity

Table 5.4 Biodiversity

Indicators	SP	CA	ST	Remarks
1. Road green cover (trees/km of road)	100*	116		High tree coverage
2. Public green space (m ² /bed)	40**	42.1		High public green space
3. Changing in flora and fauna	Conservation of flora and fauna	- Rehabilitation of flora and fauna - Return of birds and sea turtle		Receiving IHA reward for environmental rehabilitation and conservation

Notes:

- a. SP - Sustainable practices; CA - Case; ST - Sustainability
- b. Baselines: * Refer to the case of Batu Ferringhi, Penang.
** Baud-Bovy and Lawson (1998)

Key: Less sustainable More sustainable

Laguna Phuket was developed on a site which had been totally degraded by mining activities. In the late 1970s, a UNDP team conducted a survey on the potential for tourism development in Phuket and reported that mining had created a natural disaster in the area. The site was written off as “devoid of potential for development”. Similarly, a survey done by the TAT – the Master Plan and Feasibility Study, Tourism Development of Phuket, by Pacific Consultants International of Tokyo, 1979 – reported the site as “highly polluted due to in-land mining activities. Although the damage was probably beyond repair, effort should not be spared to try to restore the environment”. The soil cover and vegetation were very poor due to the soil condition (toxic and stiff-clay soils). An additional problem was erosion due to strong wind from the sea during the monsoon season. Despite these conditions, much investment was made to restore and rehabilitate the site during the development of the resort.

The planting and greening policies of the resort have been pursued keenly to “save the trees and bring back the birds”, with resultant enriching of fauna and flora within the resort area (TWRD, 1997). A collection of indigenous and environmentally appropriate plant species, which do not require much water and have high resistance to local diseases, have been planted throughout the resort. Flowering trees, such as the Flame Tree and Bougainvillea are used to decorate the resort landscape and attract more fauna back into the resort. Casuarina trees and coconut palms are favored indigenous trees in the resort. Other species such as Pairin, Pygmy Date, Bottle Palm, Royal Palm, Betelnut and Butterfly Palm grow well in the resort, as in typical quiet traditional Thai-styled courtyards. In the Dusit Laguna hotel, there is a special tropical Palm Garden presented as an educational exposition to both visitors and local people. The field survey found there was an average of 116 trees per 1 kilometer of road and 42m² per bed of public green cover which show high green cover in the resort as well as its effective policy on greening and rehabilitating the resort environment.

In contrast to the situation in more densely populated areas of Phuket, where the number and variety of bird species have fallen drastically owing to indiscriminate hunting and trapping (TWRD, 1997), the arrival of Laguna Phuket has enriched the avian habitat and many birds now live in or frequent the resort area. Every year, flocks of wild ducks and white egrets come to the resort’s lakes as a stopover on their north-south migration route. This was never seen before in the area. The resort management has also sought to preserve the marine life and rebuild the coral reefs. The resort’s lagoons are well restored for fish, prawns, shrimps and crabs. The sea turtles, which were reported all but absent from the other beaches of Phuket following the boom of development in the area over the last two decades, now come back and

lay their eggs on the Laguna Phuket beaches at night during the breeding season. The Dusit Laguna hotel is a forerunner in experiments on coral reef creation as a breakwater wall to control beach erosion in the monsoon season. It is hoped this will become a successful model for further adoption in Phuket. Laguna Phuket resort is recognized by IHA as the “most outstanding example” of environmental conservation.

• Environmental management practices

Table 5.5 Environmental Management Practices and Impacts

Indicators	SP	CA	ST	Remarks
1. Solid waste managed (%)	100	100		Effective policies on solid waste management
2. Waste water treatment (%)	100	100		Good central management system
3. E.coli counts (MPN/100ml)	≤ 100	<70		Non-polluted coastal water
4. Soil and beach erosion practices	Avoid soil and beach erosion	Less erosion		Consistent effort to prevent soil and beach erosion

Notes:

- a. SP - Sustainable practices; CA - Case; ST - Sustainability
- b. Baselines: Refer to the standard of Malaysia, China and Singapore

Key: Less sustainable More sustainable

Table 5.6 Water and Energy Saving Practices

Indicators	SP	CA			ST	Remarks
		1	2	3		
1. Water Saving	- Reduce consumption - Reuse water	100	100	100		Avoid competing use
2. Energy Saving	- Use of saving energy lighting bulbs - use of gas, solar and win energy - Auto switch-off system - Reduce use of air-conditionings	100	100	100		Common practices in the whole resort
3. Recycling	- Use of recycled papers - Reduce use of plastics - Recycle used water	100	100	100		Common practices in the whole resort

Notes:

- a. SP - Sustainable practices; CA - Case; ST - Sustainability
- b. Use classifications: 1. Hotels; 2. Restaurants; 3. Shops
- c. Baselines: Eber (1992); APEC (1996); BRECSU, 1998
- d. Data are percentage of firms which have practiced at least two measures

Key: Less sustainable More sustainable

Perceived as important for environmental conservation, TWRD has consistently sought to improve the waste disposal and water treatment system, implement water and energy saving policies, recycling practices, as well as beach erosion and pollution control. The analysis is presented in Table 5.5 and Table 5.6. The graphical codes of evaluation are applied as mentioned in the previous section.

- Waste management and water treatment: the disposal within the resort is managed by one outside contractor, however the LSC is to assume this role - collecting and treating the refuse through its incinerator system. The organic waste and tree leaves were collected daily and composted for fertilizing the gardens. Care was also expressed in its policy on materials purchasing. Plastic goods were replaced by biodegradable papers. It is planned to extend its system to collect neighbors' garbage for disposal. From the beginning of resort operation, the TWRD determined waste management policies, which avoid the discharge of raw sewage into the sea. Each resort property has its own sewage treatment plants. The treated sewage is recycled into the waste water treatment system and then used for irrigation of the landscape.

- Pollution control: The LSC provides beach cleaning and maintenance services, which are undertaken daily by six workers. A special channel was built to allow circulating and ventilating of lagoon water with the sea to keep the lagoon water fresh. Sand is removed from the lagoon regularly. The report from regular monitoring on marine water quality in Phuket shows that there is no sign of beach water pollution in Laguna Phuket. The E.coli concentration was below 70MPN/100m, which is within the acceptable criteria of water quality for bathing.

For air pollution control, Laguna Phuket is unique in its effort to create almost no air pollution thanks to well-fitted boiler stacks with scrubbers and using small carriers for transportation within the resort boundary. In addition, the resort also bans motorized water sports such as aquabikes, para-sailing, water-skiing, etc. for safety reasons and to remove noise pollution, though these may limit the range of recreational activities for both guests and hosts.

- Soil and beach erosion control: By a series of actions for beach nourishment and soil rehabilitation, the soil and beach erosion in Laguna Phuket has been minimized. The top soil has been supplemented with fertilizer to enable trees and vegetation cover to grow back, which in turn improves soil conditions and the aesthetics of the resort. The experiment on coral reef building led by Dusit Laguna is a further step to control the beach erosion. Annually, the resort expends many millions of baht to buy new sand to replace eroded beaches, partially due to strong winds in the monsoon season.

- Water and energy saving: Located in a low water table area, Laguna Phuket recognizes clearly that its operation should not accelerate the water shortage problems of local residents, which is increasingly serious in Phuket due to industrialization and tourism development. According to TWRD, the option to use deep wells was rejected since it may cause the intrusion of underground salt water into the freshwater table. For the same reason, it does not use water resources tapped from the nearby area, which may affect the water supply for local residents. With an estimate of 1500 cubic meters per day as the highest water consumption in the resort during the dry season, the resort was able to supply itself by drawing water from

several inland freshwater lakes, which were on average 42 meters deep during the wet season and 39 meters deep in the dry season. At present, the resort is capable of producing double its current demand for water (TWRD, 1997).

The LSC operates closed systems for recycling all waste water to irrigate gardens so that no water is wasted. It also has water storage tanks with a capacity of 1000 cubic meters which can process 120 cubic meters per hour for 24 hours a day through its water treatment system. The capital investment on water treatment is currently USD60,000. To encourage water saving practices within the resort, the treated water supplied by LSC was charged higher than the government water charge.

The resort uses energy saving practices. Installed as standard hotel equipment to save energy are automatic shut-off power systems in guest rooms, using natural ventilation and fans in front-of-house hotel spaces and lobby to minimize use of air-conditioners. The Dusit Laguna had a pilot project to save energy use by installing reclaim units to recover waste heat from the air-conditioner chillers for heating water. The replacement of incandescent lamps with compact fluorescent lamps in public areas, installation of reflectors above the sinks in the guest rooms, and using low flow shower heads, etc. were introduced as energy saving methods. It is estimated that the above methods save around USD68,000 of electricity expenses and 4.8 million liters of water per annum (TWRD, 1997). Because of these initiatives, the International Institute of Energy Conservation of Washington, DC, USA, Bangkok office promoted the Dusit Laguna as a model energy-efficient hotel in Thailand.

b) Economic Benefits and Opportunities

The evaluation of economic impacts of resort development, including the direct, indirect and induced impacts, is a difficult task and subject to data availability. In principle, sustainable tourism development should bring in steady and equal economic benefits and opportunities to all stakeholders. It should avoid economic dependency and leakage. Within the framework of this study, several selected indicators of economic benefits to business sectors, local residents and the local economy were assessed to provide an overview on economic satisfaction of different stakeholders with resort development (Table 5.7 & Table 5.8). The data were obtained from management, provincial statistics bureau, TAT's annual statistics and field interviews.

Table 5.7 Economic Benefits and Opportunities

Indicators	SP	NT	PV	CA	ST	Remarks
1. Employment (% local vs. foreign)	Job opportunities for locals	NA	99	98		Employment opportunities for locals
2. Economic diversity (% workforce)	Promote economic diversity, avoid dependence on tourism	NA	20	15		- Case is not dependent on tourism - Promoting other economic sectors
3. Tourism revenue (% growth)	Steady contribution to the economy	17	35.8	23.4		High and steady growth rate
4. Tourist arrivals (% growth)	Steady growth	9.2	15.8	11.8		Steady growth rate
5. Occupancy rate (% growth)	Steady and profitable rate	-4.0*	-1.0	2.5		Steady growth rate
6. Tourist expenditure (% growth)	Increase revenue for tourism business	5.4	10.7	11.8		High tourist expenditure with steady growth rate
7. Profitability (% operators)	Steady profitability	NA	NA	100		All tourist operators obtained profit goal

Notes:

- a. SP - Sustainable practices; CA - Case; ST - Sustainability; NT - National; PV- Provincial
- b. Baselines: Eber (1992); Smith (1995).
- c. Data: * Hotels in Bangkok
 - + Growth rates (%) were calculated for the period 1987-1997, except for Laguna Phuket which was during 1994-1997
 - + NA Not available

Key: Less sustainable More sustainable

Table 5.8 Income Improvement and Local Control

Indicators	SP	CA		ST	Remarks
		Formal sector	Informal sector		
1. Income (% average income)*	Better income for locals	120	120		Better income from tourism jobs
2. Local ownership (%)	Low economic dependence	85	100		Low economic dependence
3. Local sale items (%)	Low economic leakage	NA	95		Low economic leakage

Notes:

- a. SP - Sustainable practices; CA - Case; ST - Sustainability
- b. Baselines: Eber (1992); Smith (1995)
- c. Data: * Compare between average income of tourism worker and provincial average of worker.
 - + The data of income and local sale items in informal sector was an estimate from field survey
 - + NA Not available

Key: Less sustainable More sustainable

- *Local residents*

- Employment opportunities: In Laguna Phuket 98 percent of the total workforce of 1,820 persons are Thai, and 70 percent of the total workforce are Phuket residents. Among other achievements leading Laguna Phuket to secure an environmental award from IHA in 1992, the provision of employment for the local community of Laguna Phuket is highly acknowledged. Since the start of the resort, it has created more than 2,000 jobs for locals. Especially, many job opportunities have been given to senior residents who might have less access to employment in other sectors. The average age of male gardeners was 50 years old.

- Income improvement: The study found that the average income of tourism workers in the formal and informal sector in Laguna Phuket was 20 percent higher than the provincial monthly average income of workers. The statistical data show that the number of households, who have upper to high annual income (above 30,000 baht), accounted for 40-48 percent of the total, and less than 3 percent of households have an

income below 6,000 baht per annum. Tourism was commonly acknowledged as an important contributor to households' annual income. During 1993-1996, the non-farming income source, which is attributed to handicraft making, retailing and other tourism-related services, accounted for 20-22 percent of total household income. This was equal to the percentage from farming activities, which is regarded as the main livelihood of residents in Phuket. Wages and salaries contributed 35-36 percent of total household income (PSO, 1998).

The survey in this study found business people showed their positive response to the statements that tourism development in the area increases job opportunities and income to local people. The same perception was found in the survey of local residents (Appendix 14). This indicates local people were satisfied with the resort's contribution to improvement of job opportunities and income for local people.

- *Local Economy*

- Tourism revenue: The data indicate that the total revenue of tourism has increased annually in Phuket with an average growth rate of 35.8 percent per annum during the period 1987-1997 compared to a country average of 17 percent. Tourism and tourism-related sectors have become the most important economic contributor in Phuket, followed by manufacturing. It was observed that in recent years, there was declining trend in the tourism revenue in other resorts in Phuket, the growth was still high in the case of Laguna Phuket, 23.4 percent per annum during 1994-1997.

- Local ownership: The term local ownership in sustainable tourism development embodies low economic leakage and low dependence on foreign partners in resort

development and management. Unlike many other resorts in the region, where development is much dependent on outsiders such as Bintan International Resort (Indonesia), and Desaru Resort (Malaysia), TWRD is owner and developer of the Laguna Phuket resort. The total local shares were 85 percent and 100 percent in the formal and informal sector, respectively.

growth of other non-tourism sectors such as wholesale, agriculture and food processing. There was 15 percent of the workforce engaged in tourism in Thalang district, compared to an estimate of 20 percent of the province workforce indicating low economic dependence on tourism business in the area. The in-migrant and out-migrant rates to Thalang in 1995 were 5.4 and 3.7 percent, respectively, which was not much changed compared with the rates in 1993 (5.3 and 3.2 percent, respectively).

It was claimed that local food hawkers have set up their food outlets on beaches around the resort, which possibly could cause visual pollution to the resort, and introduces possible sources of health problems due to poor hygiene. However, these local traders have not been barred from operation, but rather they are provided with aesthetically and hygienically designed food facilities, where they can market their products. This is a part of the resort's policy to integrate local traders into their operations. The resort also assisted farmers to build a permanent channel to prevent sea water invasion into farmers' paddy fields, which helps enhance the relationship between the resort and the local people, which garners their support and cooperation. This is in contrast to the usual marginalization of farmers in industrialized society.

- *Tourism Business*

As long as the tourism business achieves its economic goals, the resort can be economically sustained. The satisfaction of tourism developers and operators can be evaluated through baseline indicators including growth indicators (tourism arrivals, occupancy rate, tourism revenue), and value (tourist expenditure) and profitability. Since the resort commenced its operation in 1989 and became fully operational in 1994, hotel performance indicators show that Laguna Phuket has gained a leading

position in Phuket. The corporate report of Laguna Phuket showed that the resort has experienced steady growth with an increasing trend in tourist arrivals and tourism revenues, 11.8 percent and 23.4 percent, respectively (Table 5.7). While other resorts in Phuket as well as in the region have suffered from a fluctuation in tourist arrivals, Laguna Phuket has enjoyed high occupancy rates (above 65%) and a high average room rates. The occupancy rate increased 2.5 percent per annum, compared to a decline of 1.4 percent per annum in the province average during period of 1993-1997 (the province average of occupancy rate dropped 1.0 percent during 1987-1997). The guest expenditure per day was 3 to 4 times higher than in other resorts in Phuket, and also increasing over time with an annual growth of 11.8 percent. Though the average length of stay in the resort is not high, about 3.6 days, it is stable and the same as the provincial average. Moreover, the high occupancy rate with high room rate and guest expenditure have ensured profitability to tourism operators in Laguna Phuket as compared to its counterparts in the region.

Due to the sensitive nature of business profitability, the current research did not intend to make an inquiry into the return on investment rate or other specific data. Rather, it aimed to understand how satisfied business people were with their profit achievement during the last 5 years as well as their perception of profitability in the next 5 years. The interviews revealed that all the businesses in the resort obtained their profit goal since commencement of operation. The results of the factor analysis also shows that they were quite satisfied with the past profit earnings and optimistic about profitability in the next 5 years, though the reliability was not high on account of the small sample size and the vagaries of business forecasting.

c) Socio-cultural Impacts

The socio-cultural impacts of tourism can be viewed differently from different standpoints. Along with a review of the resort’s practices concerning cultural conservation, the survey with administrative officers, tourism operators and local residents about socio-cultural impacts of tourism development aids this evaluation (Table 5.9).

Table 5.9 Socio-Cultural Impacts of Tourism

Indicators	SP	CA		ST	Remarks
		Business	Residents		
1. Socio-cultural impacts	- Conserve culture and traditions - Increase awareness of cultural values - Promote art and craft production	5.73	5.54		Conserving cultural heritage Promoting art and craft production
2. Economic impacts	Job opportunities for local	5.59	5.58		Support community development
	Promote other sectors				
	Income and tax revenue	5.29			
	Increase cost of living	-			
4. Environmental impacts	- Avoid negative impacts on social and natural environment	4.68	3.21		Low congestion and crime
5. Improving quality of life	- Increase image of area - Improve quality of life - Local support to tourism	5.53	5.58		Low irritation to tourism development

Notes:

- a. SP - Sustainable practices; CA - Case; ST - Sustainability
- b. Baselines: Eber (1992); Nelson, et al. (1993); Smith (1995);
- c. Data are:
 - + Means of factor values (1- strongly disagree, 7 - strongly agree)
 - + Not comparable between business and local people due to variances in variable loading

Key: Less sustainable More sustainable

The Laguna Phuket was conscious about impacts of its development socially and culturally. Much effort has been expended to win the support and cooperation of the local communities. The resort actively defined affordable projects to sponsor or assist,

such as renovation of historic areas and preservation of historical artworks in the local museum, supporting the sea turtle breeding project, and providing locals with drinking water tanks. The Gibbon Rehabilitation project, which is 16 km from the resort, is under the sponsorship of Laguna Phuket. The mission of this project was to retrieve White-handed Gibbons from pet shops, restaurants and private homes, re-train them and return them into the forest, which helps to restore Phuket's natural heritage.

The resort has contributed actively to the education of Chao Le (sea gypsy) children. It annually granted 104 educational scholarships to underprivileged students. The scholarship program is designed to give continuous support for selected students for their entire formal education. It also supports English-language classes and a child-care center, and sponsors prizes for the island local football leagues. These solutions have helped to resolve the sensitive problem of local hawkers on the beaches and have shown the resort's respect for the needs and benefit of the local communities. The improvement of the quality of life for the local communities is amongst the major achievements of the resort.

It is commonly observed in many tourism destinations that crime incidence increases along with tourism expansion. Statistical data show that crime incidence was slightly increasing in Phuket province, especially in recent years (Appendix 10). However, the interview with tourism operators in Laguna Phuket suggests that the security issue is not a problem, because the resort is self-contained and the security matter is taken care of by its security staff.

To reduce the host-guest discrepancy in wealth and life style, the resort has built excellent residential accommodation and recreation and child-care facilities. These are priced cheaply for staff. The staff also enjoy access to food, beverage and other aspects of the resort. This staff welfare creates a positive effect on staff morale and work responsibility, which is very important for resort success. However, it is predicted that when the tourism occupancy is higher, this may become problematic because of under-capacity of staff amenities. Therefore, the resort is now planning to build more sport and recreation facilities for its staff. The findings on people's perception about socio-cultural impacts of the resort show that business people were quite conscious about cultural conservation in their business (mean of 3.47 in response to the statement: "We are concerned much about cultural conservation in our businesses"). Three other statements, which are associated with roles of tourism development in cultural conservation, arts and craft production, loaded in one factor with a mean of 5.73. The factor indicating improvement in overall quality of life as a result of tourism is loaded with a mean of 5.53 and 5.58 for business representatives and residents, respectively. Similar to the perception of business people, local residents showed their positive response to socio-cultural impacts of tourism, and its role in improving overall quality of life (Table 5.9). These results show the satisfaction of local people with the impacts of the resort development on their local environment.

d) *Tourism Planning and Staff Training*

Table 5.10 Planning, Staff Training and Influencing Factors

Indicators	SP	CA		ST	Remarks
		1	2		
1. Planning integration	- Integrate tourism into overall development plan	2.76	Integrated planning and development		Avoid problems of ad hoc development
2. Local involvement	- Promote partnership - Consult between the industry and related organizations and local communities	2.91	Consulted and involved local communities		Good practice
3. Institutional arrangement	- Clear guidelines and public agenda for integrated planning	3.08	Not perceived as problem in planning		Positive response from all respondents
4. Training staff	- Available training opportunities for staff - 10% managerial - 20-30% skilled - 60-70% semi-skilled	2.47	>70% staff trained in different types and programs <5% unskilled		Good practice
5. Environmental awareness training (% of hotel staff)	- Integrated environmental, social cultural issues in training programs	-	- 100% hotel staff - Different types of staff training		Good practice

Notes:

a. SP - Sustainable practices; CA - Case; ST – Sustainability

b. Baselines: Eber (1992); Long (1993); Smith (1995);

d. Data are:

1. People’s perception: means of factor values (1- strongly disagree, 7 - strongly agree. Refer to Appendix 14)

2. Practice

Key: Less sustainable

More sustainable

The survey found that guidelines from local development plans as well as the role of local consultancy and public participation were perceived as important by tourism operators. The institutional arrangement was not seen as a barrier to public participation in planning (Table 5.10). Though Laguna Phuket resort was initiated by a private owner and developer, the integrated planning concept was accepted from the commencement of resort development. Prior to the construction of the resort, an environmental impact assessment was carried out and approved by the Thailand National Environmental Board. This provided the guidelines to achieve

environmentally sound development. In undertaking the assessment, a wide range of companies and agencies were consulted and involved in related aspects of planning, development and management of the resort.

As an important part of management policy in the integrated beach resort, Laguna Phuket has taken great care to liaise with the local community and win its support as well as establish staff commitment. Training opportunities were found to be more available compared to other resorts. More than 70 percent of staff have undergone professional training with different programs. Less than 5 percent were unskilled staff. The common response shows that they were satisfied with their human resource development. No problem was mentioned regarding staff training. Training and education opportunities and health services were given not only to the resort's staff, but also extended to local communities (refer to socio-cultural and economic impacts). However, the resort management recognized that these measures may not be sufficient and there is a need to have constant control, monitoring and commitment to ensure socially sustainable development.

e) Marketing and Research

The success of a destination rests on full and responsible marketing that provides visitors with adequate information, and allows them to appreciate and respect the local culture and environment. The marketing strategy for sustainable tourism requires due attention to both the supply and demand sides, which not only aims to achieve the business goals but also increase customers' satisfaction as well as enhance the local environment. Responsible marketing is therefore a prerequisite of

sustainable tourism development. In order to examine marketing and research practices, it is necessary to understand the perception of business people about their practices as well as on-going efforts. Table 5.11 summarizes people's perception as well as practices of marketing and research activities in Laguna Phuket.

Table 5.11 Marketing and Research

Indicators	SP	CA		ST	Remarks
		1	2		
Responsible marketing: 1. Promotional literature	- Sufficient information - Visitor education	5.35	Joint effort and good practices of visitor education Diversification of products		- Creating synergy of marketing effort - High satisfaction with marketing and promotion
2. Accuracy of destination literature	Genuine information		Accurate literature of destination		Good practices
Research activities: 1. Impact research	- EIA prior to development - Environmental auditing and monitoring	3.24	- EIA prior to development - On-going impact research practices		Good practices Good practices
2. Market research	On-going market research		Good research collaboration and dissemination		Good practices
3. Information accessibility	Information about impacts and market should be available for decision making		- Information and research results were disseminated among components		Good practices

Notes:

- a. SP - Sustainable practices; CA - Case; ST – Sustainability
- b. Baselines: Eber (1992); Long (1993); Smith (1995);
- c. Data are:
 - 1. People’s perception: means of factor values (Refer to Appendix 14; 1- strongly disagree, 7 – strongly agree)
 - 2. Practice

Key: Less sustainable More sustainable

In the Laguna Phuket, though each hotel property was built upon different service concepts with distinct personalities, the mix of resort properties offers a wide range of high-class hotel facilities, services and amenities accessible for guests staying in any single hotel. This helps position the resort as a whole in marketing promotion with

high competitive advantages, which could not be obtained by any single property. This joint venture also helps save costs in marketing and research. Exploiting this advantage, different forms of tourism marketing have been carried out to promote the resort entity. The information about the resort and its products as well as local social and cultural amenities is made available for visitors upon their arrival, such as flyers, leaflets and brochures, etc. The resort is well aware of the international popularity of the label “Phuket” for its success as well as its contribution to a higher Phuket profile. Therefore, the marketing effort has been genuinely made to enhance this domain. The coordination between operators within the resort and the joint sponsorship with Thai Airways International and Tourism Authority of Thailand have become a key factor for success in research and marketing of Laguna Phuket resort. Research and information have been exchanged and disseminated among the operators within the resort for application. It is clear that the synergy created by integrated resort development provides advantages in research and marketing promotion.

The survey found that the variables evaluating responsible marketing effort and research coordination highly loaded in the hypothesized factor with high reliability (Appendix 14). The means of factors were 5.35 (in response to positive statements of marketing efforts) and 3.24 (in response to negative statements of research activities). These show satisfaction of tourism operators about marketing and research activities of the Laguna Phuket resort.

5.2.3 Conclusion and Discussion

a) Conclusion

The sustainable tourism principles have been well translated into practice in the case of Laguna Phuket resort. The resort envisions long-term tourism development and its impacts on local social, economic and natural environments. The study suggests that profitability achievement for tourism developer and operators in Laguna Phuket is not at the expense of the social, cultural and environmental well-being of the local community. It shows a constant commitment of the resort to its sustainable development strategy and respect of the local community as a part of its strategy. This is key to the success of Laguna Phuket as an integrated beach resort in Southeast Asia.

Though it is just a matter of 10 years since the commencement of operation of the first resort property and 5 years from its completion and full operation, the evaluation of sustainable tourism practices and achievements of Laguna Phuket shows that the resort is contributing to sustainable tourism. These are explained and evaluated through its development strategy and practices of sustainable tourism principles. The resort is achieving the economic benefits for both tourism businesses and local people, while enhancing the social, cultural and natural environments, and improving overall quality of life. While the development and operation period are not long and responses through different stages of the resort life cycle are yet to be experienced, these policies on an integrated approach to resort development and management have generated a sustainable resort destination with the likely prospect of continuance. This study has found that while the resort envisions long-term benefit of environmental conservation practices, this may compromise short-term profitability. A longer

investment recovery period of 7 to 8 years compared to less than 5 years in Nusa Dua has to be viewed in the context of investment in conservation and enhancement of physical, social and cultural environments. Despite the haphazard business performance of other resorts in Phuket, the Laguna Phuket resort is enjoying a stable increase in tourism revenue and profit (around 15% per annum). The synergy and achievement of economies of scale through the integrated management system has nurtured the resort's long-term competitiveness and its profitability.

The sustainable tourism model is practical. Sustainable tourism is an imperative for the long-term survival of tourism businesses. The success of sustainable tourism practices in Laguna Phuket resort is attributed to the successful partnership among stakeholders and the local community and the commitment and consistent effort of the developer and operators to enhance the natural and built environment, and to support local welfare.

b) Discussion

Sustainable tourism embodies quality, process, spatial and temporal dimensions. It is defined as meeting the needs of different stakeholders with different interests and over time. These attributes of sustainable tourism constitute the confluence of planning, implementation and monitoring. Given the theoretical acceptance of sustainable tourism as meeting the economic, social, cultural and environmental goals of development, a comprehensive set of indicators is necessary to evaluate the sustainability of tourism. However, it may be unrealistic or impractical if comprehensive indicators are expected to measure all things. Also, it may not be

necessary to measure all things because, by their nature, some indicators are derivatives of or overlap others. Therefore, establishment of a set of indicators, which may be readily operationalized over time by tourism operators and administrators, is important to make the sustainable tourism model more meaningful and applicable.

From the strategic viewpoint, sustainable tourism is a future status, an end goal of the development process. However, it is not a status quo, but rather dynamic and inconsistent. What is sustainable for one period of time may not be the same for the next. This dynamic nature is much dependent on the continuous cooperation and commitment of stakeholders in sustainable tourism development. As long as the satisfaction of different parties is matched, it appears that the physical, economic and social carrying capacities of the destination are not over-reached. The indicators of sustainable tourism should be interpreted in this context of a spectrum. A logical framework for evaluation of sustainable tourism is therefore necessary to provide a forward-looking perspective on tourism practice and their implications in management, rather than attempting to quantify all sustainable tourism indicators.

Some indicators or constructs are quantitatively measured over time, from which the trend of resort performance can be derived. Other indicators are qualitative or descriptive, especially environmental management practices and socio-cultural impacts. However, to furnish the information for evaluation and monitoring sustainable tourism, these indicators are useful to provide the predictive, relative and practical measures, which are necessary for management responses.

Sustainable tourism practices do not depend only on the industry itself, but also on other political and institutional environments. The power distance between political, governmental and local people, the changes of needs, the distinction of driving force on sustainable tourism in developed and developing countries, the development dilemmas in the developing world have added new dimensions to the evaluation of sustainable tourism. Therefore, more research should be undertaken in different development contexts for further validation of evaluation frameworks of sustainable tourism. This may also help to refine the criteria or standards for evaluation of sustainable tourism, which is useful for sustainable tourism planning and management. Evaluation of sustainable tourism is hampered due to poorly defined criteria. Though different levels may have different indicators determined by objectives of development, the nature of sustainable tourism is similar. Adequate and current information at the business level can facilitate sustainable planning and monitoring at a higher level of management and evaluation.

Table 5.10.6 **CO₂ EMISSIONS FROM FLIGHTS** **PER PASSENGER**

Category	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Domestic	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
International	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Source: Ministry of Transport, Singapore. Data for 2020-2024 are estimates. Data for 2025-2030 are projections.

CHAPTER VI

EVALUATION OF SUSTAINABLE TOURISM IN BATU FERRINGHI BEACH RESORT, PENANG

In this chapter, the proposed evaluation model of sustainable tourism is used to examine sustainable tourism practices and their impacts at Batu Ferringhi beach resorts in Penang Island, Malaysia. Developed on an *ad hoc* basis, the resort has expanded rapidly in the last decade with different levels of impact on the local environment. It, however, tends to be less environmentally and economically sustainable. The physical environment in the whole resort of Batu Ferringhi manifests a lack of environmental integrity and control over development. Failure to support the growth and maintain the competitive advantage of the resort appears critical as a major cause of resort stagnation or decline, even before it reached maturity. The set of evaluation indicators in the model is used to portray the current status of resort development as well as its anticipated problems which need to be resolved if the resort is to be more sustainable.

6.1 Batu Ferringhi Beach Resort: Development and Operation

Penang, the second smallest state among 13 states of Malaysia, is located on the northwestern coast of the Malaysia peninsula. Georgetown, the state capital, recently was ranked as the fifth most liveable city in Asia (Asiaweek, December 5, 1997), which upholds Penang's regional popularity. Tourism and its related industries are the second largest economic sectors in the Penang economy following the manufacturing sector. Since the early 1970s, Penang has viewed tourism as an important vehicle for

the economic development of the state. This is shown in the Penang Master Plan 1970 and Penang Strategy Development Plan 1991, in which sustainable development has become a focal point. However, it was only in 1994 that the state government set up a State Steering Committee to formulate a Tourism Action Plan, which aimed to secure sustainable tourism development in the state. During the period of 1990-1996, tourist arrivals and number of room nights in Penang increased by 10.8 and 5.9 percent per annum, respectively (PDC, 1998). Penang now is promoted as an island resort with a rich living culture and a MICE destination.

Batu Ferringhi (Portuguese Rock) is the primary beach resort located on the northern shore of Penang island which stretches along 2.5 kilometers of shoreline about 15 kilometers from Georgetown. Originating from a fishing village (*Kampong*), Batu Ferringhi tourism development first came with the opening of the Lone Pine Hotel in 1948 which had 6 rooms and some residents' rented bungalows. It has expanded since the late 1960s and accommodated 760 hotel rooms in 1974, 2832 rooms in 1990 and 3620 hotel rooms to date. The beach front villages were displaced for hotel development. The rapid rate of land use change in the area has led to a limit on the growth of resort development since the early 1990s.

However, the fast growth of the resort with a demand-led approach to development has been impaired by poor infrastructure and threatens the beach quality and natural environment. Improvement of all aspects of infrastructure was not sufficiently addressed, which is viewed as a stumbling block to future growth and development of the state (PDC, 1997a). Shortage of water supply, inadequate infrastructure for waste

disposal and water treatment, degradation of natural ecosystems and coastal water pollution have been currently listed among critical issues in a state government agenda on an environmental conservation strategy. The absence of a state comprehensive land use plan and integrated planning for sustainable development were recognized as a major cause of haphazard development and environmental disruption.

6.2 Evaluation of Sustainable Tourism Practices¹

The data and information used for evaluation were obtained from secondary sources including published and unpublished documents and research, the field survey, interviews with management and local people as well as verification by field inspection. The graphical codes of evaluation are applied as mentioned in the previous chapter.

a) Sustainable Resource Use

- *Physical development*

Endowed with a relatively narrow coastal strip, the development intensity of hotels and restaurants on Batu Ferringhi beach has reached saturation. Ten out of 19 beach hotels in Penang are located in the Batu Ferringhi area with 3,620 rooms, which accounts for almost 32 percent of a total 11,348 hotels in the whole state (including city hotel, hill and beach hotels). The analysis of physical development density in Batu Ferringhi is presented in Table 6.1.

¹ The Tables' notes are the same as in Chapter V except as otherwise indicated.

Table 6.1 Physical Development Density

Indicators	SP	CA	ST	Remarks
1. Accommodation density (rooms/ha)	≤52	70.6		36% higher than ideal practice
2. Site coverage (%)	≤30	33.7		Lack of public open space
3. Beach capacity (meter of coast /person)	≥0.65	0.21		High beach congestion
4. Load factor (site stress)	1.0	0.76		Moderate seasonal efficiency

Notes:

- a. SP - Sustainable practice; CA - Case: ST - Sustainability
- b. For SP, Baud-Bovy and Lawson (1998), of which:
 - + Accommodation density and site coverage for beach resort with dense buildings, which is higher then those for individual properties or closely grouped resort.
 - + Beach capacity (meter of coast per person) is defined for resort of medium standard with 20 meters depth of beach

Key: Less sustainable More sustainable

The accommodation density in Batu Ferringhi was 70.6 rooms per hectare, which is higher than the desirable practice for beach resorts with dense buildings. The average site coverage was 33.7 percent compared to the standard of 30 percent on the assumption that Batu Ferringhi is a dense building resort, so the measure is higher than those for other categories (Baud-Bovy & Lawson, 1998). These reflect the high intensity of hotel development in Batu Ferringhi beach resort. The beach capacity of 0.21 meters of coast per person was very low compared to the standard of 0.65 for medium standard resorts, indicating high beach congestion. The problem becomes more serious in the specific context of Batu Ferringhi, where access was limited because of privately owned land in some parts of the beach. The desirable practice in a medium standard resort was applied for Batu Ferringhi because most accommodation establishments in Batu Ferringhi are in the three star class. Moreover, the desirable practices for comfort or deluxe resorts are much higher, 1.0 meters and 1.5 meters, respectively, which make the practice of Batu Ferringhi far more undesirable.

Along with hotel development, a number of restaurants, bars and shops are located along the narrow strip of beach area and the main road of Batu Ferringhi. A total of 22 restaurants plus many shop houses, and mobile retailing carts along the beach and main road of the resort have caused a serious congestion problem, especially in the peak season and at night time. However, the average load factor is 0.76 indicating a moderate level of seasonal efficiency of resource use and less site stress during the peak season.

- *Environmentally sensitive design*

Table 6.2 Environmentally Sensitive Designs

Indicators	SP	CA			ST	Remarks
		1	2	3		
1. Image	Malaysia architectural features	10	64	53		Limited practice
2. Landscaping	Greening and conserving natural features	30	8	6		Uncommon practice
3. High water set-back limit	≥ 50 meters	20	20	20		Beach invasion and limited beach access
4. Energy saving designs	Natural ventilation, energy saving lighting, reduce use of air-cons, auto switch-off system	40	68	53		Limited practice

Key: Less sustainable More sustainable

Most tourism facilities and tourist attractions in Batu Ferringhi have been developed by the private sector. In the absence of a proper plan for overall development of the resort, the large scale and fast growth of tourism development in the area has proved a barrier to its sustainable development. Except for the case of Rasa Sayang Hotel, where care was given to conserve and build up the image of typical Malay culture in architectural, landscaping and interior design, the high-rise hotel buildings mixed up

with shop houses and food outlets have created an undistinguished image of the resort as a whole. The coast is being marred by a monotonous mass of high-rise concrete structures. In Batu Ferringhi, the set-back of 20 meters from beach-front hotels to high-water line has limited the public space in front of the beach and contributed to beach erosion. In addition, the free open beaches have turned into private properties, which blocks access to the locals (Smith, 1992c). Most restaurants and shops use natural ventilation, but the practice of energy saving is limited in hotel properties.

- *Resort accessibility*

Table 6.3 Accessibility to Batu Ferringhi Resort

Indicators	SP	CA	ST	Remarks
1. Accessibility for international tourists	- International access and availability	- 6 international flights with 50 direct flights per week. - <20% of tourist arrivals		Capable of catering for demand
2. Accessibility for domestic tourists	- Easy accessibility and comfort	- Easily accessible by train, air, bus and ship with comfortable services		Good access and services
3. Day trippers/ residents: - Transport - Public amenities	- Good internal circulation - Good service quality - Good public amenities	- Volume/capacity ratio was greater than 1.0 - Illegal taxi operation - De facto public parking in hotels - Poor public amenities		Over-capacity and low quality of services

Key: Less sustainable More sustainable

Batu Ferringhi as a major destination in Malaysia has good access for international, domestic tourists and day trippers. However, in recent years many problems have arisen regarding transportation quality and internal circulation within the resort which have become major concerns for sustainable tourism development. As shown in Table 6.3, Batu Ferringhi beach resort is accessible by car or bus. It is about 45 minutes by taxi from Penang International Airport to Batu Ferringhi, and about 30 minutes from the central business district. At present, there are 6 international airlines that come to

Penang with total of 50 flights per week from Singapore, Bangkok, Phuket, Madras, Medan, Hong Kong, and Xei-men. However, most international airlines still fly via Kuala Lumpur (PDC, 1997a). In 1996, the passenger growth reportedly slowed to 2 percent per annum compared to 5 percent previously. The airport, however, is upgrading and expanding to increase its capacity and service quality. It is expected to be capable of catering to the increasing volume of tourists.

At present, a large portion of tourists comes to Penang by road, and less than 20 percent of tourists arrive by air. Due to increases in tourism traffic and commercialization, the problem of transportation capacity in Penang arises. The fast annual growth of tourist arrivals to the state, which was 12.1 percent during 1991-1996 compared to a 1.8 percent growth rate of the Penang population, resulted in an increase in the ratio of tourists to population from 1.74 in 1991 up to 2.84 in 1996. This has created competition for use of the same basic facilities and amenities and caused congestion problems. It is reported that during 1991-1995, the number of road accidents in the state doubled and the number of casualties and deaths increased by 235 percent and 175 percent, respectively (PDC, 1997b). According to the annual survey of the Highway Planning Unit, the volume growth rate on Jalan Batu Ferringhi was estimated at 7.06 percent per annum. The volume per capacity ratio exceeded 1.0, indicating serious congestion during the peak hours, and the road had already reached maximum capacity in 1989 (ERA, 1993).

Regarding the quality of transportation services, visitors' complaints highlighted poor transportation services, difficulty in getting taxis/public transportation and extra

charges by taxis (MOCAT, 1997). Though private air-conditioned buses and mini-buses were recently introduced to cater for the increasing traffic flow into the island, the problem still exists with an “uncertain schedule, long waiting times, low level of comfort and inappropriate siting of bus stops” (PDC, 1997b). Taxi services remain inadequate, which causes illegal taxi operations in the area. Besides, the narrow road leading to the resort along with the lack of public parking places frustrates accessibility into and within the resort area. Though the Ministry of Culture and Tourism has identified ship cruises as a key area of tourism development in the state, Penang is still unable to accommodate ships due to lack of a cruise terminal. In recognition of the profound transportation problems, several projects have been planned or started to improve the transportation facilities as well as the road system in the state and Batu Ferringhi in particular. A Light Rail Transit was proposed as part of a long-term strategy for improvement. However, progress is not rapid enough to meet the increasing demand for public transportation. Inadequate tourism support infrastructure is a salient problem, which threatens the quality of the resort environment. In addition, lack of public parking space, public toilets, phone booths, and tourist information center, mean public amenities are poor. The signages are only in Bahasa Malay. To date there are no known plans to upgrade the public amenities in the resort or in Penang in general (PDC, 1997a).

- *Biodiversity*

In the quest for tourism development, much land area has been cleared for building hotels, restaurants, golf courses and other facilities. It has been documented that there was a high rate of land use change of almost eight times in 1989 compared to 1974

due to tourism expansion (Smith, 1990). This situation has accelerated in recent years when more golf courses have been built in the state, which have taken up a total of 1,428 hectares of land. Five out of ten golf courses in the state (both in operation and in the planning and construction stages) are on Penang island. The newest golf course is Eden Ferringhi resort, which is under construction and involves clearing 91.5 hectares of land. The conversion of forest and agricultural land is a major cause of disruption of ecological habitats. It destroyed the natural resort ambiance and led to sea pollution problems in Batu Ferringhi (Smith, 1992c, Wong, 1993), which persists.

Table 6.4 Biodiversity

Indicators	SP	CA	ST	Remarks
1. Road green cover (trees/km of road)	100*	56		Lack of green cover
2. Public green space (m ² /bed)	≥20**	12.5		Lack of public green space
3. Changing in flora and fauna	Conservation of flora and fauna	- Lost of original forest tree species - Shrinking of Dipterocarp low land forest - No more sea turtle		Disturbance of natural habitats

Notes:

a. SP - Sustainable practices; CA - Case; ST - Sustainability

b. Baselines:

* The standard was set by the Penang Island Structure Plan (PDC, 1997b)

** Baud-Bovy and Lawson (1998)

Key: Less sustainable More sustainable

The survey found low tree cover in beach front and main road areas due to replacement by restaurants and hotels. The estimate of an average of 56 trees per 1 kilometer in length is much lower than the criterion of 100 trees proposed by PDC. There is no complete study on tree species in these areas, but interviews with local people indicated that many tree species had disappeared, especially of forest tree and

palm families, due to land clearance for development. According to a 1992 survey of 110 roads in Georgetown, the tree species diversity was also very limited, at about 50 species. About 60 percent of them were not Malaysian natives, but imported from Thailand, India and Africa, etc. The situation was seen to be worse in Batu Ferringhi where there are few road tree species. The lowland Dipterocarp forest was originally the most extensive type of forest covering most lowland areas in Penang, which included around 15 main families of trees, but now the Pantai Aceh Forest Reserve is the last remaining extensive area (PDC, 1997b). In Batu Ferringhi only a few common species are found of the Dipterocarpaceae, Palmae and Leguminosae families, although coconut trees were newly replanted on the beach front. From a biological viewpoint, the concern becomes more critical since the remaining forests are "fragmented and too small to be able to retain all the species within them" (PDC, 1997b).

The Penang Island Structure Plan requires that there should be 4 hectares of public open space for a population of 2,500. With a population of 1,000,000, the island requires 160 hectares of public open space.

Penang is the only state in Malaysia that does not have any gazetted area for wildlife conservation due to its small size and the fact it no longer has large animals in its forests (PDC, 1997b). The complaint was raised in interviews with local people that there have been no sea turtles coming to lay eggs on the shore of Batu Ferringhi beach in the last decade due to tourists on the beach and water pollution. As a consequence, the population of jelly fish (the prey of the sea turtle) has increased in the swimming area and may harm the swimmers, especially box jelly fish which can be lethal. However, the establishment of Batu Ferringhi Wildlife Sanctuary, proposed in the Third Malaysia Plan, shows a positive response and an interest in wildlife conservation.

• *Environmental management practices*

Table 6.5 Environmental Management Practices and Impacts

Indicators	SP	CA	ST	Remarks
1. Solid waste managed (%)	100	50		Low capacity of solid waste management
2. Waste water treatment (%)	100	100		Poor facilities and low regulation enforcement
3. E.coli counts (MPN/100ml)	≤ 100*	>1,000		Poorly polluted coastal water
4. Soil and beach erosion practices	Avoid soil and beach erosion	Severe erosion		Lack of collective efforts to prevent beach erosion

Notes:

a. SP - Sustainable practices; CA - Case; ST – Sustainability

b. Baselines:

* The Proposed Interim National Standards of Malaysia whereby the marine water quality for body contact should not exceed 100MPN/100ml of E. Coli.

Key: Less sustainable More sustainable

Table 6.5 and Table 6.6 present several selected key indicators which were used for the evaluation of major environmental management practices in Batu Ferringhi and

tourism's impacts on the local environment. The data and information were collected from environmental reports of PDC and an environmental impact assessment study for Ferringhi golf resort. In addition, the interviews with management from hotels and tourism-related firms assisted in verifying and detailing the current practices and key issues as well as efforts to overcome the problems.

- Waste management: The data show that the amount of solid waste including household, commercial and non-scheduled industrial waste has increased remarkably over the years. The total amount of waste generated per day in Penang island increased from 149 tons in 1973 to 600 tons in 1995 and an estimated 848 tons for 1997. The per capita waste generation is 0.7kg/day, which is reported the highest compared to other cities in the region (PDC, 1997b). The collection of solid waste in Penang island was the responsibility of the Public Cleansing Section of the Urban Services Department (MPPP). However, since June 1998, Northern Waste Industries Sdn. Bhd. (NWI) has undertaken this task on a 20-year management concession. Domestic waste is collected three times a week from house to house or from bulk bins. The commercial and market waste and garbage are collected daily. However, due to the low capacity of collection and high growth rate of waste generation, the collection of waste within the resort is not fully carried out. Overloaded bins or baskets of garbage and other domestic waste, which usually accumulates for 3-4 days causing foul smells in surrounding areas, are commonly observed in many places in front of Batu Ferringhi beach.

Another issue is waste disposal. In 1995, around 50 percent of solid waste was not disposed of properly. It is reported that the current landfill site operated by MPPP for Penang island, which was opened in September 1978, has already reached maximum capacity. Though the government has proposed an integrated schedule for a waste management system including different treatment facilities since 1989, to date only the policy of landfill is operational. No incentives for waste management and recycling have been provided. The related problems still persist with illegal dumping, inadequate collection and insufficient disposal capacity (PDC, 1997b).

- Pollution control and waste water treatment: The stretch of beach from Tanjung Tokong to Batu Ferringhi has the highest concentration of hotels, accommodating half of all hotel rooms in the state. This concentration has attracted more tourist facilities and visitors to the area, which has increased the amount of litter and waste water. Since 1990, a sewage treatment plant has been operated in the resort. With an estimate of waste water discharge per capita per day of 225litres, the existing sewage treatment plant in Batu Ferringhi is capable of handling the waste water treatment in the area (ERA, 1993). However, it is reported that the plant has discharged effluent of low quality due to poor facilities. In addition, the Indah Water Konsortium (IWK) has no authority to enforce the disposal of sludge water into the system (PDC, 1997b). Most free-standing restaurants and households are not a part of this scheme. As a result, the discharge of untreated or improperly treated waste water into the sea has become a serious problem in Penang island in general and in Batu Ferringhi resort in particular.

The research done by Owen (1976) shows that six beach front hotels in Batu Ferringhi had high E.coli counts, ranging from 240MPN/100ml (Casuarina Hotel) to 2,400MPN/100ml (Rasa Sayang and Golden Sand Hotels). The E.coli count in the upper stream of Sungai Satu was as low as 90 MPN, while downstream near Batu Ferringhi main road it was 11,000 MPN/100ml. The E.coli count downstream of Sungai Anak Mas near the shopping complex along Batu Ferringhi road was more than 24,000MPN/100ml, indicating a serious level of water pollution. The same applies to coastal water quality, the E.coli count recorded at Rasa Sayang Hotel was 2,790 MPN/ml in 1985, 1,062 MPN in 1987 and 138 in 1989 (ERA, 1993). To date the problem still persists. The untreated waste water from commercial and domestic uses is discharged into Sungai Batu Ferringhi and evidently flows to the sea. The mean faecal coliform bacterial level recorded at 25 monitoring stations from 1993 to 1996 shows that none of monitored sites in the Penang island, including Batu Ferringhi, met the water quality criteria. The quality of coastal water and beach is downgraded by high levels of E.coli bacteria concentrations at about ten times above the permissible limit, which makes the beach no longer safe for swimming (PDC, 1997a).

Mobile sources are known as the largest contributor to air pollution in Penang, and accounted for around 71 percent in 1991 to more than 80 percent of air pollution in 1995 (PDC, 1997b). Batu Ferringhi, as a major beach resort in the state, is not exceptional, with increases of tourist arrivals into the area, congestion and air pollution are exacerbated. Besides, water sports such as para-sailing and water

scooters have caused water and noise pollution on the beach as well as danger to the swimmers.

- Soil and beach erosion control: In 1992 only 11.2 percent of Penang's total land area was under forest cover. However, this ratio was reduced further to less than 6.5 percent in 1995, due to the high rate of land clearance for development in recent years. The effect of deforestation in Penang is clearly revealed in high rates of soil erosion, increased incidence of landslides and flooding, intensified siltation of estuaries and river mouths, and destruction of fauna and flora. The Water Quality Technical Report on Penang GIS Pilot project shows that most of the river basins on the island are

Beach erosion is another problem in Batu Ferringhi. Due to improper planning and management in the resort, many hotels and restaurants have occupied the public beach as a private domain and built up their tourism facilities, which causes beach erosion and blocks public access to the beach. The short set-back limit of 20 meters between beach front and restaurants or shop houses is another force contributing to beach erosion. While there are increasing tourist arrivals to the beach and a lack of integrated and efficient methods to prevent soil erosion, beach erosion will remain a salient problem in Batu Ferringhi. Recognizing this, some individual operators have used sand sacks or concrete bars to deal with beach erosion which may help to some extent, but causes visual pollution.

- Water and energy saving: Practices of water and energy saving help not only to conserve natural resources by reducing the level of resource consumption and depletion and alleviate the conflicts in resource use, but also to save operational costs.

APFC (1996) suggests that water consumption can be cut by 30 to 60 percent by employing proper water saving measures. There is the same opportunity for energy saving, and if efficient measures are applied, the fuel bills in hotels can be reduced by 20 percent (BRECSU, 1998). However, the interviews with business people as well as evidence from government reports revealed that practices of water and energy saving in Batu Ferringhi resort were still uncommon (Table 6.6).

Penang has a reliable water supply system, which serves over 99 percent of the population. However, it is reported that except for the Sungai Dua plant, all other treatment plants in the state have reached or exceeded their capacity as they were built

mainly between 1921 and 1963. The current demand is increasing at 5.4 percent per annum and has already reached the expected demand projected by the Penang Water Authority for the year 2005. The situation may be more difficult to control because the state is totally dependent on water resources outside the state, adding to the seriousness of water pollution as mentioned above. Competing demands for water are drastically increasing, especially during the dry season. The water consumption per capita has risen by 60 percent over the last 10 years, indicating that water conservation efforts are inadequate and inefficient. The same is true for energy consumption in the state; the data show an increase of 10-12 percent and 8-9 percent per annum in consumption of commercial energy and per capita energy consumption respectively, during the period 1990-1995 (PDC, 1997b). The absence of an energy conservation policy is a major issue, and discourages energy saving efforts.

Table 6.6 Water and Energy Saving Practices

Indicators	SP	CA			ST	Remarks
		1	2	3		
1. Water Saving	Reduce consumption Reuse water	50	16	0		Limited practices
2. Energy Saving	Use of saving energy lighting bulbs, auto switch-off system, use of gas, solar and wind energy, reduce use of air-cons	40	24	12		- Limited practice - Less of incentive policies
3. Recycling	Use of recycle papers Reduce use of plastics Recycle used water	70	44	35		Common use of recycle paper, but not other measures

Key: Less sustainable More sustainable

The survey of hoteliers and tourism operators found that lack of commitment to water saving has limited the implementation of water saving measures. Lack of infrastructure, technical guidance and high investment costs were perceived by

tourism operators as barriers to environmental conservation practices. They were also neutral about the idea that practices of energy and water saving help reduce their operational costs. However, several hotels such as Casuarina Beach Resort, Bay View Hotel, Rasa Sayang and Golden Sands Resort have undertaken different measures to save water and energy (electricity, cooking, water and space heating). For instance, recycling waste water for garden watering, use of natural ventilation and fans in the front of the house, or auto-switch off systems are commonly applied to save energy. Though these efforts may not be comprehensive and no records of energy saving have been released, they illustrate a new wave in environmentally sound tourism practices in Batu Ferringhi, but one that is insufficient to reverse the established trends.

b) Economic Benefits and Opportunities

Table 6.7 Economic Benefits and Opportunities

Indicators	SP	Nation	State	CA	ST	Remarks
1. Employment (% local vs. foreign)	Job opportunities for locals	NA	98	97		Better jobs opportunities for locals
2. Economic diversity (% workforce)	Promote diversity, avoid dependence on tourism	17.0	10.0	65.0		Case is dependent on tourism
3. Tourism revenue (% growth)	Steady contribution to the economy	21.97	18.5	20.5		High and steady growth
4. Tourist arrivals (% growth)	Steady growth	5.7	8.6	9.96		Steady growth
5. Occupancy rate (% change/year)	Steady and profitable occupancy rate	-2.1	-2.3	-1.9		Declining trends during the last decade
6. Tourist expenditure (% growth)	Increase revenue for tourism business	15.0	11.2	11.2		Steady growth
7. Profitability (% of firms)	Steady profitability	NA	NA	90		Most properties obtained profit goal

Notes:

- a. All growth rates (%) were calculated for the period 1990-1997
- b. NA Not available

Table 6.8 Income Improvement and Local Control

Indicators	SP	CA		ST	Remarks
		Formal sector	Informal sector		
1. Income (% average income)*	Increase income for locals	60	120		Low payment in the formal sector
2. Local ownership (%)	Low economic dependence	80	100		Low economic dependence
3. Local sale items (%)	Low economic leakage	95	70		Low economic leakage

Notes:

a. SP - Sustainable practices; CA - Case; ST - Sustainability

b. Baselines: Eber (1992); Smith (1995)

c. Data:

* Compare between take-home salary of new tourism worker and an average of take-home salary of factory worker

+ The data on the informal sector are the minimum estimates from field survey

Key: Less sustainable More sustainable

Central to sustainable tourism are economic benefits and cost sharing. Tourism development should support the local economy, avoid dependency and promote people's well-being. Equal consideration in terms of economic benefits and opportunities is therefore given to all parties involved in tourism development: the local economy, local people and tourism businesses. The economic benefits and opportunities provided by tourism development in Batu Ferringhi in comparison with those at the state and national levels are presented in Table 6.7 and Table 6.8.

- *Local residents*

- Employment opportunities: The tourism sector accounts for around 10 percent of the state's total workforce (approximately 50,000). There has been a steady increase in the number of jobs created by tourism for more than three decades of resort development (Smith, 1990, PDC, 1997a). Very few hotels in Penang employ foreign workers because they stated that their business requires more inter-personal skills

which are better provided by local employees. Moreover, the MOCAT allows only resorts to employ foreign labor. This regulation increases job opportunities for local people. The survey found that at present more than 97 percent of hotel staff and employees in other tourism-related enterprises in Batu Ferringhi are of Malaysian nationality, slightly lower than that of the state average. However, most foreign employees are in managerial and supervisory positions. A 1993 survey in Penang showed that 9.7 percent of managerial staff were foreign employees, while there was only 0.06 percent of foreign employees on average (PDC, 1993). There is also evidence that a large portion of the tourism workforce is involved in unskilled jobs, 35 percent of the total, followed by semi-skilled jobs with 27 percent. Only 18 percent are in skilled jobs. The management and supervisory positions are 20 percent (PDC, 1997a). Lee et al. (1998) also found that women, who account for almost 40 percent of the total tourism workforce in Penang, mainly do the low-skilled and low-paid jobs.

- Income improvement: It is reported that in the past few years, workers in the tourism sector in Penang have been attracted to the manufacturing sector due to higher salaries. The basic salary of a new hotel employee is around RM280 and the take-home salary is RM600, compared to RM1,000 of a production operator (PDC, 1997a). The 1990 EC/ASEAN study showed that attrition was less among workers at the management and supervisory level compared to other levels. This may be due to dissatisfaction with income from tourism jobs. However, the reliability of this data is questionable. The survey of business representatives shows disagreement with the statement that a majority of local staff was doing low paid jobs. Similarly, local residents seem to be satisfied with income improvement from tourism jobs. The

comparison was especially marked in the case of former poor fishing families. The average monthly income of a retailer, and a beach boy even, is 4-5 times as high as tourism worker salaries in hotels. Most of them agree that their living standard is better thanks to tourism.

- *Local economy*

- Tourism revenue: Tourism stands as the second most important revenue earner in Penang, accounting for about 15 percent of the state's GDP after the manufacturing sector. Though Penang is the second smallest state in Malaysia, it accounts for one third of Malaysia's tourism arrivals. The steady increase in tourist arrivals, along with an increase in average per capita tourist expenditure (more than 11 percent during the period of 1990-1997), has resulted in a steady increase in tourism revenue to the state as well as Batu Ferringhi in particular (Table 6.7). This trend has been observed since the late 1970s (Smith, 1990). However, a decline of 8.04 percent in tourist arrivals to Penang in 1997 was recorded, but may represent a sign of the haze effect and economic crisis in the region.

- Local ownership: The Penang Tourism Action Plan suggests a development strategy with the goal of a sustainable tourism industry that has "extremely low" economic leakage with strengthened linkages between tourism and other economic sectors, and generates sustainable income. In this light, it encourages in-country, in-region and local ownership of tourism facilities and services through investment incentives and other measures in order to retain tourism profits. The survey found that in the informal sector, 100 percent of small tourism and tourism-related businesses were locally

owned. However, the situation was different in the formal sector (Table 6.8). Except for two hotels (Casuarina and Lone Pine Hotels) which are 100 percent Malaysia owned, the rest are partially owned by foreign companies with an ownership share of 20-30 percent. The average of foreign financing of the hotel sector is more than 80 percent.

- Range of local items for sale: According to MOCAT's survey in 1996, shopping accounted for 27 percent of total tourist expenditure in Malaysia. Penang is known as a shopping paradise for its wide range of goods, including traditional batik and handicrafts, foodstuffs and household items, clothes, textiles and silverware. It was also currently reported that tourist expenditure on imported goods accounts for only 5 percent of their total expenditure (MOCAT, 1996). Though such a low percentage appears doubtful, it does indicate low economic leakage as well as the important role of tourism in supporting other local production activities. The interviews with local residents found that many arts and handicraft products have been imported from Thailand, Indonesia, and elsewhere, which accounted for at least 30 percent of items sold in the resort. The Yahong Art gallery is the major platform in Batu Ferringhi for Malaysian arts and culture, it too sells many goods from other neighboring countries.

- Economic diversity: Given that Penang has very limited land resources, tourism development is competing for land use with other economic sectors. Tourism is the second most important earner in the state's GDP, accounting for around 15 percent of its GDP. In terms of employment, tourism accounted for 10 percent of the total workforce in Penang and 65 percent in Batu Ferringhi (Table 6.7). The tourism

industry is recognized as a catalyst for the development of sectors such as transportation, food processing, and other services in the state. The proliferation of informal business activities has been recorded as a result of and directed by the growth of tourism. This is confirmed by the positive response of business and local people to the role of tourism in job creation and promoting the development of other economic activities (Appendix 14). The economic linkages between the local economy and tourism have been strengthened in this sense. The field observation in Batu Ferringhi town showed that the main economic activities are tourism and tourism-related businesses. Apart from 10 beach hotels and resorts, the number of restaurants and coffee shops and handicraft shops were 25 and 17, increased from 16 and 15, respectively in 1993 (ERA, 1993). Hawker food stalls, car/bike rentals, jewelry shops, money exchangers, photography shops etc. have mushroomed, and count up to a hundred units in the town.

However, since it was originally a fishing village, the tourism development in Batu Ferringhi has replaced the traditional livelihood of villagers. The dislocations and resettlement away from the beach began in the early 1970s and continued in the 1980s to free land for the constructions of hotels and other tourism facilities. As tourism expanded, the local residents became more dependent on tourism as their major income source. By 1991, 49 percent of locals of Kampong Batu Ferringhi were employed in tourism and tourism-related jobs (Smith, 1990). At present, this number is up to more than 65 percent as mentioned above. Some local respondents claimed that they could no longer rely on fishing for their earnings due to less access to the on-

shore area and a dramatic decline in fish stocks. These findings indicate a high level of dependency on tourism and tourism-related jobs.

- *Tourism business*

The data show a steady growth of Batu Ferringhi resort since its establishment, especially during 1990-1996. With an annual growth rate of tourism arrivals of almost 10 percent and a steady increase in per capita tourist expenditure, it enjoyed a steady increase in tourism receipts of more than 20 percent per annum during the period of 1990-1997 (Table 6.7). However, the fast growth in hotel rooms in the resort during the last few years has resulted in a decline in room occupancy rates of 1.9 percent per annum compared to a drop of 2.3 and 2.1 percent in the state and national average. Only 30 percent of international tourists were on repeat visits to Penang, compared to 71 percent in Malaysia (MOCAT, 1997). The sharp drop in visitor arrivals in 1997 (8.04 percent compared to 1996) was a reflection of the adverse effect of the haze and economic crisis in the region. Under the circumstances, business people seem not to be so optimistic about profitability in the next five years as discussed in Appendix 14, although 90 percent of hotels claimed to have achieved profit goals set during the last five years. The devaluation of the Malaysian ringgit recently has put Malaysia in a competitive advantage as a cheap destination. However, it may be too early to discuss the impact of the economic crisis on tourism development in the region and in Batu Ferringhi. It can be concluded, however, that the overbuilding of hotels along with a degrading beach environment must be a barrier to the achievement of economically sustainable tourism in Batu Ferringhi.

c) *Socio-cultural impacts*

The socio-cultural impacts of tourism in Batu Ferringhi should be viewed in concert with its stagnation stage of development. According to Butler’s life cycle model, it is assumed that at this stage, the local residents may expose their high level of irritation to tourists. However, this seems not to be the case in Batu Ferringhi. Both business people and locals seem to give a higher weighting to tourism benefits than costs. Table 6.9 summarizes the results of the survey of business and local people in Batu Ferringhi about the socio-cultural impacts of tourism development.

Table 6.9 Residents' Perception of Tourism Development

Indicators	SP	CA		ST	Remarks
		1	2		
1. Socio-cultural impacts	- Conserve culture and traditions - Increase awareness of cultural values - Promote art and craft production	5.44	4.62		Positive response to tourism's role
2. Economic impacts	Job opportunities for locals	5.13	5.27		Positive response to tourism's role
	Promote development of other sectors				
	Income and tax revenue	4.22			
4. Environmental impacts	- Avoid negative impacts on social and natural environment	4.59	5.60		Negative impacts on environment
5. Improving quality of life	- Increase image of area - Improve quality of life - Local support to tourism	5.14	4.66		Low irritation to tourism development

Key: Less sustainable More sustainable

Though tourism development on the one hand has caused many undesirable impacts on the local social environment and their traditional lifestyles, on the other hand it is obviously welcomed by residents as a source of improved income as discussed before. The disruption of traditions and cultural heritage as well as changes in lifestyles were mostly explained by locals as a result of modernization and industrialization in the

country. The role of tourism in the improvement of job opportunities and income was more likely perceived to contribute to social equity. Though tourism increases the cost of living, and contributes to environmental degradation, the common response from local residents was in favor of tourism development (Residents' Perception of Tourism Development - Appendix 14).

The survey of business representatives showed positive perceptions of the role of tourism in cultural conservation and promotion of arts and crafts production, while local residents were somewhat neutral in their responses. With respect to the social impacts of tourism, both business representatives and residents were more neutral in response to negative impacts of tourism, such as an increase in crime, congestion and degradation of cultural values. In a general evaluation, business representatives expressed positive responses indicating that tourism helps improve their quality of life, while residents were more neutral in this regard.

d) Tourism Planning and Staff Training

Integrated planning is commonly known as an alternative way to promote sustainable tourism development. The notion of integration not only requires integrating tourism into an overall development plan, but also emphasizes the needs for local inputs and involvement in the planning and development process as well as human resource development. These are essential for the benefit of locals and the environment as well as long-term business viability. By nature, integrated planning and public participation as well as human development issues are more politically and

institutionally oriented. The evaluation in this study was therefore based on the survey of industry representatives about their perceptions and practices, verified by field interviews and a review of documents on related issues.

Table 6.10 Planning, Staff Training and Influencing Factors

Indicators	SP	CA		ST	Remarks
		1	2		
1. Planning integration	- Integrate tourism into overall development plan	3.54	Lack of master plan prior to development		Tourism action plan was set in 1994
2. Local involvement	- Promote partnership - Consultation between the industry and related organizations and local communities	3.89	Limited practices and not applicable to local communities		Only positive response in hotel sector
3. Institutional arrangement	- Clear guidelines and public agenda for integrated planning	4.43	Unclear institutional mechanism		Recently proposed in the review of tourism action plan
4. Training staff	- Available training opportunities for staff - 10% managerial - 20-30% skilled - 60-70% semi-skilled	3.26	- 20% managerial - 18% skilled - 35% unskilled		Less formal training programs High proportion of unskilled staff
5. Environmental awareness training program (% of hotel staff)	- Integrated environmental, social cultural issues in training programs	3.56	21		Limited practice

Key: Less sustainable More sustainable

Batu Ferringhi beach resort has been developed by the private sector on an ad hoc basis since the early 1970s. Since then, it has experienced stable growth and reached a stage of saturated physical development. Although the Penang Master Plan study was carried out in 1969, and highlighted the potential for tourism development, there was no further plan to ensure controlled tourism development. The construction of tourist properties undertaken in the absence of an integrated plan for overall development has adversely affected social and environmental aspects of the resort as illustrated by

factors such as the lack of public open space and amenities, roads and walking paths etc. Reflecting an officially expressed concern with planning for sustainable development, a Local Plan was proposed in the early 1980s as an integrated part of the Overall Draft Structure Plan for Penang Island to alleviate these problems, nearly 20 years after the commencement of the resort. Unfortunately this plan is still in preparation, though a separate Penang Tourism Action Plan was launched in 1994.

The survey revealed that though participation and local consultation are perceived to be important in tourism planning, public participation was very limited for the business sector and still not applicable for local residents. The governmental tourism bodies (the State Tourism Council and Tourism Division of PDC) have recognized the roles of trade organizations (i.e. Penang Tourism Center Bhd., Penang International Hoteliers Association, Penang Hotels Association, Penang Tourism Guide Association etc.) in tourism development and promotion. but their participation was still limited to less proactive roles. There was a lack of consultation with local communities and small tourism-related enterprises. The review of the state Tourism Action Plan emphasized the need to “set up a unit to coordinate with all the departments and authorities” involved in planning. However, the neutral response from business people indicates that institutional arrangements are not clearly perceived as an obstacle to planning participation. This may be due to the sensitivity and complicated nature of the issue as discussed in previous chapters.

Labor shortage is another problem in the Penang tourism sector as the demand exceeds supply. In this context, the employers have to recruit workers who lack basic

knowledge and skills. The problem is made worse when there is a lack of formal training opportunities in the tourism sector. According to a PDC report, most executives in the hotel sector have not have been given formal specialized training and their skills have been mainly acquired on the job. Unfortunately, due to a lack of emphasis on training for tourism, the local public universities have not offered courses linked to tourism. Only four out of 26 colleges in Penang offered tourism-related courses, but limited to those covering hotel and catering education. However, the response from business representatives indicates that the problem of training is not due to lack of training programs but rather the limited budgeting for training

activities. More than 60 percent of tourism employees in Penang were semi-skilled (27%) and unskilled (35%), compared to 22% in the case of Manila and only 5% in Singapore (PDC, 1997a). The interviews with hoteliers in Batu Ferringhi found that the number of unskilled employees was the same as that of Penang, which indicates that more investment in training is needed for the improvement of tourism service quality in Batu Ferringhi. The survey found that only 21 percent of hotel staff in Batu Ferringhi has received any environmental awareness training.

e) *Marketing and Research*

Penang Tourism Action Plan suggests a formula for sustainability that has a pyramid shape of markets, indicating a broad base in the home community market to diminish dependence on national and international markets. This provides guidelines for tourism development and promotion that put more emphasis on the needs of local markets. The strategy is grounded in the fact that the domestic tourist segment has increased remarkably in recent years, from 21.7 percent of the inbound tourist market

in Penang in 1990 to 27 percent in 1993 and 47.8 percent in 1997. It also recognizes that many tourists, especially domestic tourists, were not fully aware of the tourism products of Penang. Many tour and travel agents were only promoting conventional tour packages without acknowledging heritage zones. Therefore, much effort has been made to try to fill this gap. As a major destination in Malaysia, Batu Ferringhi has been promoted through different channels at national and state level. However, there is still a need for further effort to ensure the responsible marketing of Batu Ferringhi.

Table 6.11 Marketing and Research

Indicators	SP	CA		ST	Remarks
		1	2		
Responsible marketing: 1. Promotional literature	- Sufficient and responsible information - Educate visitor	4.60	Available but less detailed information about destination and its products		- More on tradition tour package - Lack of literature on cultural heritage
2. Accuracy of destination literature	Genuine information		Inaccurate information of destination		Inaccurate about beach quality
Research activities: 1. Impact research	- EIA prior to development - Environmental auditing and monitoring	4.47	- EIA is required since 1985		Many former projects did not have EIA
2. Market research	On-going market research		Lack of on-going impact research practices		Lack of environmental auditing
3. Information accessibility	Information about impacts and market are made available for decision making		Lack of market research and collaboration		Destination market research is needed
			Lack of information exchange among components		- Good access to tourism database - Less market information

Key: Less sustainable More sustainable

In recent years, Penang tourism has made significant advances in marketing and promotion, which have been brought about by a combined effort between local government authorities and related agencies as well as the action of individual

properties. Different brochures and flyers introducing Penang tourism products as well as hotel leaflets are made available to visitors at gateways, and by hotels and travel agents inside and outside Penang. A recent survey of visitors showed that 40 percent of tourists obtained information from travel agents, followed by informal sources such as friends/relatives (32 percent), and travel guide books (14 percent). Only 2 percent obtained the information from the Malaysia Tourism Promotion Board's collaterals (MOCAT, 1997). Basic information about Penang also can be accessed on the internet. The Penang calendar of events in 1997 gazetted 23 events (i.e. almost two events per month), which indicate the multifaceted nature of Penang's tourism. Products include heritage/historical trails, MICE, cuisine/gourmet, sports, beaches, shopping, traditional agricultural tourism, health and medicine as well as education. However, little information is found in the general state literature about Batu Ferringhi. The inaccurate description or over-promotion of Batu Ferringhi beach resort as an area of golden sands and a clean and fine beach, which does not exist in some cases, may have caused disappointment to visitors.

The survey found that tourism business representatives were somewhat satisfied with their marketing effort to promote themselves in regional and international markets. The data and information about markets and the performance of the tourism industry in the area were made available to the business sector. However, there is a lack of in-depth studies of demand to assist businesses in a fiercely competitive environment. They stated that lack of coordination and collaboration has weakened marketing and research efforts.

In concern with environmental impact assessment and monitoring, according to the Malaysia Environmental Quality Act (Amendment 1985), the environmental impacts assessment is mandatory for approval of projects which involve the construction of tourism facilities with more than 80 rooms. However, the interviews with government officers and hotel managers revealed that lack of regular environmental auditing, especially in the case of Batu Ferringhi, has discouraged environmental protection and conservation practices.

6.3 Summary

The evaluation of sustainable tourism practices in Batu Ferringhi resort shows that though people have a clear perception of sustainable tourism principles and their implications for their long-term business survival, the practices of sustainable tourism are still wanting. While sustainable tourism principles seem to be well translated into strategic development at a macro level, which helps enhance the understanding and acceptance of sustainable tourism, practices at the micro level are limited due to low enforcement of regulations.

Lack of updated information about environmental monitoring and auditing has created a gap between policy making and implementation. Although the sustainable use of resources and environmental management have been recently recognized by the business sector as a vital factor for sustainable tourism, the natural resources at the destination are seen by individual tourism entrepreneurs as common property. As a consequence, each individual property does not practice environmentally sound

tourism business to the same extent and approaches cannot be integrated into a macro policy for the resort as a whole. The integration of sustainable tourism development activities in the resort is still to be achieved. The absence of integrated planning since the onset of development has resulted in many adverse effects on the environment, the consequences of which may not be easy to deal with and may even be irreversible. While the resort can be described as economically and culturally sustainable to some extent, its environmental sustainability is still in question and more commitment and a greater sense of responsibility amongst individual businesses is necessary if progress is to be made in that direction.

CHAPTER VII

EVALUATION OF SUSTAINABLE TOURISM IN PATONG BEACH RESORT, PHUKET, THAILAND

Like many other resorts in Southeast Asia developed in the 1970s and early 1980s, Patong beach resort has experienced a fast pace of development to meet increasing demands of tourism over the last decades. The development of Patong beach resort has contributed significantly to economic development of the local economy. However, lack of an integrated development plan for the resort has raised the question of its sustainability and long-term profitability. High development density of tourism facilities with poor support infrastructure emerges as a key threat to the environmental quality of the resort as a whole. However, few efforts have been made to tackle these problems, especially at operational levels. The evaluation of sustainable tourism in this chapter portrays these circumstances at Patong Beach resort as well as highlighting major opportunities for improvement.

7.1 Patong Beach Resort: Development and Operation

Patong beach resort is located on the western coast of Kathu district, Phuket island. It stretches along the four kilometers of shoreline of the Andaman sea, about 15 km from Phuket town and 15 km from Laguna Phuket resort. Patong beach resort is the primary resort in Phuket, which commenced in the early 1970s and has expanded rapidly since the early 1980s. It started up with a few second homes and small hotels owned by locals in the early 1950s. Patong expanded after heavy investments in beachfront land and luxury hotels by Phuket's tin tycoons since the late 1970s. This movement resulted in a showdown between the forces of the tin industry and tourism

The tin dredging expanded over the western coast of the island and began excavating the seabed and the unspoiled beaches of Patong and Karon. A series of public protests along with the slump of fifty percent in the world tin price in 1985 brought trouble to the tin miners, and marked a move for many tin miners into hotel and resort development.

Along with this revolution, the internationalization of Phuket airport in 1980 has brought in an influx of tourist arrivals with mushrooming of hotel rooms, restaurants and other tourism support services. A series of beach resorts has grown, which have made Phuket famous among mass tourism destinations. The annual growth rate of hotel guest arrivals and hotel rooms were 15.8 percent and 18.9 percent respectively during the period 1987-1997 (Appendix 3).

Developed on an ad hoc basis, Patong beach resort has expanded rapidly, from 29 hotels in 1987 to 89 hotels in 1993 and 102 hotels in 1997. The annual growth rate of guest arrivals to Phuket and Patong were 15.8 percent and 13.9 percent respectively during 1987-1997 (TAT Phuket office, 1998). However, this rate has reversed in the last five years, with a decline of 3.6 percent during the period 1993-1997. In 1996, especially, the number of tourist arrivals to Patong dropped 48 percent compared to 1995.

Despite fast growing tourism development, lack of proper zoning and planning for tourism, and inadequate infrastructure to support the fast development, such as poor sewage systems and garbage collection, has threatened stagnation with severe environmental deterioration for tourism in Patong.

7.2 Evaluation of Sustainable Tourism¹

The data and information used in this section were obtained from management, government reports and the statistics from Patong Municipality, Kathu district and Phuket province as well as the TAT. Some data on environmental management and impacts were provided by the Marine Biological Research Center of Phuket, the Department of Environment, Patong Municipality, assisted by field interviews and verified by field inspection. The graphical codes of evaluation are applied as mentioned in the previous chapter.

a) Sustainable Resource Use

- Physical development

Table 7.1 Physical Development Density

Indicators	SP	CA	ST	Remarks
1. Accommodation density (rooms/ha)	≤52	68.7		24% higher than desirable practice
2. Site coverage (%)	≤29	35.6		Lack of public open space
3. Beach capacity (meter of coast /person)	≥0.65	1.07		No beach congestion
4. Load factor (site stress)	1.0	0.68		Site stress during the peak season

Notes:

- a. SP - Sustainable practice; CA - Case; ST - Sustainability
- b. For SP, Baud-Bovy and Lawson (1998), of which:
 - Accommodation density and site coverage for beach resort with dense buildings
 - Beach capacity (meter of coast per person) is defined for resort of medium standard with 20 meters depth of beach

Key: Less sustainable More sustainable

Patong beach commenced as a resort from the very early days of tourism development in Phuket. The main attraction of Patong is its fine coastline with the three “Ss” of

¹ The Tables’ notes are the same as in Chapter V except as otherwise indicated.

Sun, Sand and Sea. Most hotels are concentrated along the beach with frontage to the Thaweewong main road. The tourism properties include 102 hotels, bungalows and resort condominiums, and more than 100 restaurants, clubs and bars. In the list of 77 restaurants being gazetted for Phuket, 54 restaurants are in Patong. This displays a high concentration of tourism development in Patong beach. The analysis of physical development density in Patong is presented in Table 7.1

The study found that there is a high concentration of hotel development with a accommodation density of 68.7 rooms/ha and an average site coverage of 35.6 percent compared with the desirable practices of 52 room/ha and 29 percent, respectively. The high density of development in the resort became a problem as the tourism support infrastructure was inadequate. However, the beach capacity was 1.07 meters of coast per person compared with the desirable level of 0.65, indicating low beach congestion. This was based on an assumption that Patong beach is medium standard and 40 percent of the total residents may come to the beach (40-70 percent recommended by Baud-Bovy & Lawson, 1998), which was reasonable because most accommodation establishments in Patong were under the three-star classification. Moreover, local residents in Patong have a wide range of choices because there are many beaches around Phuket island (12 beaches). The load factor in Patong resort was 0.68, indicating medium seasonal efficiency of resource use and less site stress during the peak season.

- *Environmentally sensitive design*

Much of development in Patong has been affected by international influences in designing and landscaping. It was found that less than 30 percent of tourism hotel

properties but more for restaurants and shops incorporated the Thai architectural features, such as in Banthai Beach Hotel, Tropica Bungalows, Holiday Resort, etc. (Table 7.2). The traditional wooden architecture and Siam-styled garden were used as major features to enhance the aesthetic effects and environmental harmony. However, many other hotels and restaurants are high-rise buildings and concrete blocks which present an undistinguished image of the resort. Some hotels have no open space, especially newly-built or upgraded hotels.

Table 7.2 Environmentally Sensitive Design

Indicators	SP	CA			ST	Remarks
		1	2	3		
1. Image	Thai architectural features	28	50	58		<30% hotel properties practiced desirably
2. Landscaping	Greening and conserving natural features	22	13	6		<30% hotels and a few restaurants practiced
3. High water set-back limit	≥ 50 meters	0	0	0		Not practiced
4. Energy saving designs	Natural ventilation, use of energy saving lighting, reduce use of air-cons, auto switch-off system	25	43	79		<30% hotels but more restaurants and shops practiced

Key: Less sustainable More sustainable

There is no real building set-back requirement in Patong. It was found that 5 hotels, several restaurants and shop houses stand on the beach front which has blocked public access and created environmental problems. The beach erosion was more evident in these places than any other place on the beach. The shop houses and souvenir shops, food outlets and vendors, which fully occupied most main roads, were another concern in the overall development of Patong resort. These have spoiled the resort's aesthetics and accelerated congestion problems. Recognizing these problems, a 1998 proposed plan for the resort development required that the property in the resort must

not be higher than three stories. However, it seems too late for it to be effective in conserving the ambience in the resort.

The practices of energy saving design were common in all the ad hoc resorts. Only some hotels (less than 30 percent of the total) and restaurants were found to have energy saving designs such as natural ventilation and auto switch-off system. For the restaurants and shops, application of natural ventilation and use of air-conditioning were subject to affordability rather than the intentional design to save energy.

- *Resort Accessibility*

Table 7.3 Resort Accessibility

Indicators	SP	CA	ST	Remarks
1. Accessibility for international tourists	- International access and availability	12 Airlines with 36 flights per weeks >32% tourist arrivals		- Easy access - High airport capacity
2. Accessibility for domestic tourists	- Easy accessibility and high level of comfort	Easy access by air and road, comfortable services		Good accessibility and services
3. Day trippers/ residents: - Transport - Public amenities	- Good internal circulation and comfortable services - Available tourist information, phone booths, public toilets, car park, signages, beach access.	- Easy access by bus, taxi, car, tuk-tuk, ferry - Not good circulation: long waiting time, low level of comfort of public bus services in the resort - Lack of public parking space, signages, toilets		- Free access to beach for locals - High congestion within resort - Poor public amenities

Key: Less sustainable More sustainable

Located in western Phuket island the Patong beach resort is easily accessible by cars which take around 45 minutes from Phuket International Airport, and 15 minutes from Phuket town. It is also accessible by public buses or tuk-tuk (minibuses) which are available at 15 minutes intervals from Phuket town and take around 30 minutes. Patong beach resort enjoys easy access from outside Phuket thanks to good

connections with the Phuket International Airport and the North-South Highway linking with Bangkok with other southern provinces of Thailand as well as Malaysia (referred to Chapter 5). However, there are problems of internal transportation in the resort due to lack of internal transportation means and high road congestion.

As shown in Table 7.3, the major problems in Patong resort were related to poor internal circulation, high road congestion during the peak hours and poor public amenities. While the beach is accessible for many modes of transportation, the narrow roads, especially the beach front road (Thaweewong) and lack of public parking spaces caused serious congestion and contributed to air pollution in the resort. Most parts of roads near the beach front were invaded by hotels, souvenir shops and food outlets. In addition, lack of signages, public toilets and other public amenities caused dissatisfaction of visitors.

- Biodiversity

Table 7.4 Biodiversity

Indicators	SP	CA	ST	Remarks
1. Road green cover (trees/km of road)	100*	38		Low tree cover, except for some main parts of Thaweewong road
2. Public green space (m ² /bed)	≥ 20**	9.8		Lack of public green space
3. Changing in flora and fauna	Conservation of flora and fauna	- Few tree species - Lost of forest trees - No more sea turtle		- Highly urbanized resort - Lost of natural habitats, no replacement of ex-situ habitats

Notes:

a. SP - Sustainable practices; CA - Case; ST – Sustainability

b. Baselines:

* Refer to Batu Ferringhi case. This standard in Seattle US is 200 trees per mile (125 trees/km).

** Baud-Bovy and Lawson (1998)

Key: Less sustainable

More sustainable

Patong faces the Andaman Sea and is backed by tropical forest and hills. This special geographical feature with limited low land has put Patong in a vulnerable ecological position. In the last decade, the development of the resort has cleared much forest and soil cover. The rapid expansion of hotels, villas, restaurants and shopping centers has cleared hundreds of hectares of land for construction. This situation continues in the quest for urbanization. As a consequence, the loss of fauna and flora was inevitable. The biodiversity in Patong is presented in Table 7.4.

The interviews with local residents, especially the seniors who settled long before the arrival of the resort, indicated that Patong has changed dramatically. Much of the wooded area was cut down for buildings without any replacement. This caused a serious loss of natural habitats and led to the loss of flora and fauna. There was an estimate of 38 trees per kilometer of road indicating very low urban tree cover. The public open space was 9.8m^2 per bed compared to the standard of more than 20m^2 . Many long-life indigenous trees and forest trees have disappeared. The only two common tree species in the resort were casuarina and palm. The hills in the southern part of the town have eroded because of reduced tree cover. The long stretch of beach front was almost denuded of green cover. Sea turtles, which previously came to lay eggs on the beach, no longer do so. Much effort has been made by the local government and the Marine Biological Research Center of Phuket to preserve sea turtles. The situation has been much improved in many other sites of Phuket but not in Patong beach due to disruption by tourism development.

Since 1992, Patong municipality has carried out several projects for greening and improving the resort environment. Among these are the greening project of US\$800

thousand (1 million baht) by Patong Municipality. However, the result was not obvious. Lack of tree cover on streets and in public places in the resort is still a major complaint by locals as well as tourists.

- *Environmental management practices*

Table 7.5 Environmental Management Practices and Impacts

Indicators	SP	CA	ST	Remarks
1. Solid waste managed (%)	100	70		Not fully managed in the resident areas
2. Waste water treatment (%)	100	50		Low capacity and ineffective management
3. E.coli counts (MPN/100ml)	≤ 100	<80		Polluted in southern part of the beach (280MPN/100ml)
4. Soil and beach erosion practices	Avoid soil and beach erosion	Less severe		Erosion in the central and southern parts of the beach

Key: Less sustainable More sustainable

Table 7.6 Water and Energy Saving Practices

Indicators	SP	CA			ST	Remarks
		1	2	3		
1. Water saving	Reduce consumption Reuse water	26	23	8		Limited practices
2. Energy saving	Use energy saving bulbs Use gas, solar and win energy Auto switch-off system Reduce use of air-cons	29	47	79		Limited practice
3. Recycling	Use of recycle papers Reduce use of plastics Recycle used water	36	40	67		- Less than 20 percent of hotels recycle used water - Reuse of paper

Key: Less sustainable More sustainable

With the resort developing and expanding rapidly, the infrastructure was incapable of supporting environmental conservation and protection. Lack of coordination and integration in environmental management within the resort emerged as key issues and a major concern in environmental management practice. Most infrastructure for water

and waste management in the resort was managed by individual properties. Some were linked to the public system, others not. Overall, these infrastructures were insufficient to meet the demands of development (DOE, Patong Municipality, 1998). The analysis is shown in Table 7.5 and Table 7.6.

- Solid waste management and waste water treatment: While waste collection and disposal were managed by a public company which was responsible for the whole municipality, the poor facilities and lack of human resources have limited the collection capacity. At present, it is reported that there is no problem in solid waste collection in hotels, where the collection is made on contract between each individual hotelier and the responsible company. However, the problem still exists in the residential areas within the resort. The problem of accumulation of domestic waste and garbage was commonly observed in these areas. To date, it was reported that around 30 percent of solid waste is not collected for controlled disposal (DOE, 1998).

Waste water treatment was another environmental management concern in Patong. In the late 1980s, two projects of almost 38 million baht were carried out by local government to improve waste water treatment. These projects were responsible for an area of 1.6 square kilometers of Patong with a total capacity of 2,250 cubic meters per day (maximum capacity of 3,600 cubic meters). The quality of water before and after treatment for BOD was 147 mg per litre and 20 mg per litre, respectively (the standard indicator is 20 mg maximum). In 1992, these projects were reported to have recovered 59.23 percent of investment costs. However, these facilities are as low as 50 percent of current demand for waste water treatment due to fast growth in tourism development and industrialization (DOE, Patong Municipality, 1998).

- Pollution control: Due to lack of centralized environmental management as mentioned above, pollution problems have become critical, especially air pollution. This should be of concern for tourism business people, when the competition is fierce among resort destinations within and outside Phuket. While the beach is accessible for any type of transportation means, lack of public parking space and a narrow road have caused congestion in Patong, especially in the peak periods. No effort to control air pollution has been reported by individual properties.

[illegible][illegible]

proved, according to the local authority, and erosion was observed in the central beach.

- Water and energy saving: The survey with hoteliers and other tourism-related businesses revealed that water shortage was a severe problem in Patong beach resort. A few hotels have their own sources of water supply from pump wells. Most others have to buy water from a service company, which is transported by lorries during the dry season. The problem arises during the peak season of tourism. Forty percent of hotel properties practiced some measures for water saving, while this is not a concern in restaurants and shops (Table 7.6). It was also interesting to find that these measures were only applicable for staff, not for hotel guests. This implies business people are not aware of the resource saving practices.

The same situation applies to energy saving practices. Only around 30 percent of hotels have used some measures to save energy consumption such as reduce use of air-conditioning in front-house, auto switch-off system in guest rooms etc. Likewise, not much effort was made for saving energy in restaurants and shops, however, less use of air-conditioning was common practice. There is no available data on level of water and energy consumption in Patong, but the absence of incentive policies on water and energy saving has been a concern of policy makers and practitioners, especially in the context of high development growth and urbanization in Patong.

b) Economic Benefits and Opportunities

As an important dimension of sustainable development, tourism development should

be economically sustainable. It should bring equal benefit and cost sharing among stakeholders. It should also be highly resilient to the changes of environment. In other words, economic sustainability manifests the steady trend of benefits which tourism brings to the local economy and tourism businesses. Table 7.7 and 7.8 summarize these trends of the case in comparison with those of the province and the nation.

Table 7.7 Economic Benefits and Opportunities

Indicators	SP	NT	PV	CA	ST	Remarks
1. Employment (% local vs. foreign)	Job opportunities for locals	NA	97	97		Low rate of foreign employment
2. Economic diversity (% workforce)	Promote economic diversity Avoid dependence on tourism	NA	20	35		- Promote other local economic activities - Case is dependent on tourism business
3. Tourism revenue (% growth)	Steady contribution to the economy	17	35.8	-5.7		Declining trend in the case, but not others
4. Tourist arrivals (% growth)	Steady growth	9.2	15.8	-3.6		Declining trend in the case
5. Occupancy rate (% growth)	Steady and profitable rate	-4.0	-1.0	-5.5		Low occupancy rate and decline
6. Tourist expenditure (% growth)	Increase revenue for tourism business	5.4	10.7	10.7		High growth rate
7. Profitability (% hotels)	Steady profitability	NA	NA	92		Most hotels achieved profit goal

Key: Less sustainable More sustainable

Table 7.8 Income Improvement and Local Control

Indicators	SP	Formal sector	Informal sector	ST	Remarks
1. Income (% average income)*	Better income for locals	120	150		Good payment for tourism jobs
2. Local ownership (%)	Low economic dependence	92.7	100		High local control
3. Local sale items (%)	Low economic leakage	NA	95		Low economic leakage

Key: Less sustainable More sustainable

- *Local residents*

- Employment opportunities: The tourism development in Patong has provided local people with better job opportunities. More than 97 percent of hotel and restaurant staff are Thai nationality, of which around 60 percent are from Phuket. At present, more than 10,000 hotel jobs have been created. The survey with tourism business people found that the mean response to the statement that tourism increases job opportunities for locals is 6.14, indicating the high satisfaction about job creation brought by tourism development. However, the response from local people to this issue was mixed in social and cultural impacts of tourism development with high reliability and a mean factor value of 4.86 ranging from a neutral to positive response (Appendix 14). This makes it difficult to differentiate the level of satisfaction about tourism impacts on job creation.

- Income improvement: Given limited resources for agriculture and fishery production in Patong, tourism development has provided an alternative to improve the incomes of local people. The study found that the average income of tourism workers in the formal and informal sectors in Patong was around 20 percent and 50 percent, respectively, higher than the provincial average of factory workers. The survey with local people shows positive perceptions of income improvement thanks to tourism. Most respondents indicated that families involved in tourism-related business, have become economically better-off, especially with regard to the retailing businesses. The statistical data show that approximately 50 percent of households in the district have an annual middle income level and around 25 percent of households have a high level of more than US\$2,000 (50,000 baht), which is somewhat the same portion as for Phuket town (PSO, 1995). More importantly, tourism provides income sources for people who have less access to employment due to low education. However, the

economic discrepancy appears wider among families who have different accesses to tourism business and tourism-related jobs due to difference of financial capacity and business locations.

- *Local economy*

- Tourism revenue: The data show that the total contribution of tourism and tourism-related sectors accounted for around 20-25 percent of the municipality's GDP- leading among sources of revenue in the municipality (Statistic Department, Patong Municipality, 1998), an increase from 12 percent in 1987. The data on distribution of tourism revenue in Thailand in 1996 show that more than 38 percent of tourist expenditure was for shopping, 15 percent for food and beverage and around 10 percent for entertainment. Though these specific data are not available for Patong resort, the interviews with government tourism officers found a similar phenomenon. Given that annually more than 70 percent of tourists to the Patong resort are foreign tourists, whose expenditures are almost double that of the Thai tourists, the contribution of tourism to the local economy is considerable.

The survey with tourism business people as well as local residents also showed their positive response on tourism's contribution to income and tax revenue (Appendix 14). However, the data indicate that there was a decline of 5.7 percent per annum in tourism revenue for Patong during the last 5 years. This was also a common trend in Phuket during the last five years with a decline of 5.4 percent per year, though the annual growth rates of tourism revenue during the period of 1987-1997 were 35.5 and 17.0 percent in Phuket province and the nation, respectively (Table 7.7).

- Local ownership: The survey found that there was no individual facility totally owned by international investors. The average percentage of international investment in individual properties was only 7.5 percent (The Statistic Department, Patong Municipality, 1998) and 100 percent local ownership in the informal sector. Low foreign ownership in Patong beach indicates a low level of dependency on outsiders in development as well as low economic leakage.

- Range of local sale items: As in Laguna Phuket resort, there is a wide range of local arts and craft products in Patong beach resort, of which a considerable portion is brought from outside Phuket. With respect to the contribution to the local economy, differentiation of products imported from outside the resort boundary makes some sense. However, the economic contribution to the region and to the country should not be overlooked. The study found that more than 95 percent of sale items in Patong were typical Thai products, especially clothes, arts and handicrafts.

- Economic diversity: Though tourism development has occupied almost one third of flat land in Patong, it has not replaced or converted other economic activities in the area. This is suggested by the percentage of tourism and related services in the GDP of Patong municipality and Kathu district as a whole, where it accounts for around one fourth of GDP, followed by manufacturing and construction. Both business and local people acknowledged the important role of tourism in promoting the development and expansion of economic activities such as agricultural production, wholesale and retail, food and beverage supplies etc. (Appendix 14). The tourism workforce accounted for 20 percent of the provincial workforce and 35 percent in the case of Patong. This indicates that people in Patong were more dependent on tourism

jobs compared to other districts. However, there were more diverse job opportunities in the province and the region. The inward migrant rate to Patong was 10 percent in 1995 compared to 9 percent in 1993, while the outward migrant rate was the same as in 1993, 10 percent (PSO, 1995).

- *Tourism Business*

Due to aggregation of tourism statistical data, there is no specific data on revenue earned in Patong beach resort before 1993. It is acknowledged in the provincial data that tourism revenue has increased remarkably during the last ten years (Appendix 5) with the average growth of 35.8 percent per annum, of which Patong beach resort as the major resort in Phuket took a major share. However, in the last five years, the fluctuation in tourism arrivals and a shorter length of stay have revealed the faltering profitability for tourism businesses in Patong. The data show that during the period of 1993-1997 there was a decline of 3.6 percent per annum in tourist arrivals to Patong, though there was an increase of 5.7 percent per annum in tourist arrivals to Phuket in the same period. Especially, tourist arrivals to Patong declined almost 48 percent in 1996 compared to 1995. The occupancy rate dropped 5.5 percent per year. However, the reliability of some of the data on occupancy rates, which were much lower than those obtained from individual properties, may be questioned. The average length of stay in Patong reduced from 6.91 days in 1993 to only 3.66 in 1997. These trends explain the annual decline in tourism revenue in Patong at 5.7 percent (Table 7.7). The situation appears as a common trend in other resorts in Phuket during the last five years with a decline of 5.4 percent, except for Laguna Phuket resort. This is due to over-construction of hotels and other accommodation establishments in Phuket, as well as impacts of the regional economic crisis and haze problem.

The interviews with industry representatives found that most hotels obtained their profit goals during the last five years, though the response to statements of profitability for the tourism industry is neutral (mean of factor value = 4.47). This indicates business people were not really satisfied with profits in the last five years, and not optimistic about profitability in the next five years. On the one hand, this is due to the fact of low and unstable profits to the tourism business sector. On the other hand, the impacts of regional economic crisis on the tourism industry make the future even more uncertain.

c) Socio-cultural Impacts

Table 7.9 Locals Response to Tourism Development

Indicators	SP	CA		ST	Remarks
		Business	Local		
1. Socio-cultural impacts	- Conserve culture and traditions - Increase awareness of cultural values - Promote art and craft production	5.15	4.86		- Positive response to tourism' role in cultural conservation - Degrade traditional lifestyles
2. Economic impacts	Job opportunities for local	6.14	5.47		Positive response to economic impacts of tourism development
	Promote other sectors				
	Income and tax revenue	5.21			
	Increase cost of living	-			
4. Environmental impacts	- Avoid negative environmental impacts	4.79	5.19		Negative environmental impacts
5. Improving quality of life	- Increase image of area - Improve quality of life - Local support to tourism	4.91	4.46		- Improve quality of life - Low local irritation to tourism

Key: Less sustainable More sustainable

The study shows that business people were quite concerned about cultural resources in their business as well as impacts of tourism on local culture and cultural conservation. They perceived that tourism development in Patong does conserve the

local culture by enhancing people's awareness about their traditions and values, preserving and promoting arts and craft production (Table 7.9).

Tourism, however, has caused many other negative effects on the social environment, such as an increase in crime, congestion and degradation of traditional values and customs (means of factors of 4.80 and 4.86 for business people and local residents, respectively). Though there is no available data on crime incidents in Patong beach in particular, the provincial data on crime incidents reveal an increase in crime in the past five years (Appendix 10). The interviews with local residents also revealed that tourism has increased crime in the area, especially offences against property.

People tend to be positive in their response to socio-cultural impacts of tourism development in the resort. The business people were more likely to express a positive view of tourism's role in improving quality of life than the local residents, who were more neutral (Table 7.9). Overall, people express a low level of irritation with tourists, though the physical development of the resort seems to approach its physical carrying capacity.

d) Tourism Planning and Staff Training

The *ad hoc* development approach in Patong is manifested in a lack of integration among resort components and unmanageable growth. This appears as the costs of overall development and remedial actions are required. While tourism businesses showed a positive attitude to integrated planning and local involvement, the practice was still absent. The study demonstrated that, development of the resort was mainly

driven by the private sector on an *ad hoc* basis. The planning was carried out on an individual basis, while there is lack of local master plan to control development of the resort as a whole. Tourism business people stated that they have limited opportunity to take part in local tourism planning (mean of factor values is 5.08), except for large-scale hotels who confirmed their participation in provincial planning. Most respondents showed lack of recognition of their right to be informed and participate in provincial planning. However, the institutional arrangements (lack of formality and guidelines) were not clearly perceived as a barrier to public participation (mean of factor is 4.29). This may be due to lack of respondents' understanding about the planning integration as well as the sensitivity of the issues themselves.

Table 7.10 Planning, Staff Training and Influencing Factors

Indicators	SP	CA		ST	Remarks
		1	2		
1. Integrated planning	- Integrate tourism into overall development plan	3.26	No master plan prior to development		No local tourism master plan to date
2. Local involvement	- Public participation and involvement in tourism planning and development	5.08	Limited opportunities for locals		Limited practice
3. Institutional arrangement	- Clear guidelines and public agenda for integrated planning	4.29	Unclear public agenda for local participation		Not clearly mentioned as barrier
4. Training staff	- Available training opportunities for staff - 10% managerial - 20-30% skilled - 60-70% semi-skilled	4.23	- Lack of training opportunities - 35% unskilled staff		- Mainly on-job training - High rate of unskilled staff
5. Environmental awareness training program	- Integrated environmental, social cultural issues in training programs	4.40	- Lack of integrated training plan - Only 12 % of hotel staff had environmental training		Lack of formal training and environmental awareness training

Key: Less sustainable More sustainable

For training opportunities and budgeting though, the result of factor analysis shows an inconsistent response from business people. It is found that they were neutral to statements that training opportunities are not available (mean of factor is 4.23) and there is lack of an integrated training plan (mean of factor is 4.40). An estimate of only 12 percent of hotel staff have undergone environmental awareness training programs, while this was largely ignored in restaurants and the informal sector. The 1990 survey by EC/ASEAN showed that there was a 37 percent unskilled tourism workforce in Phuket. This ratio was found not much changed (35 percent) by the current study. Staff in managerial positions were given more opportunities for training than others. It is also interesting to find out that financial difficulty or limited budget are not perceived as major obstacles to training activities (mean of factor is 4.58). However, the interviews with industry people found that the majority of the labor force in hotels and restaurants are low skilled and semi-skilled workers. Very few staff have been trained annually to meet the current demand for skilled labour. The problems become more salient in small firms.

e) *Marketing and Research*

Generally speaking, much marketing and promotion effort has been undertaken by the Regional Office of TAT to promote tourism in Phuket. Different sources of information about tourism attractions in Thailand in general and in Phuket in particular have been made available for tourists at gateways to the region. The marketing efforts improved remarkably during the time of this study as the campaign of “*Amazing Thailand*” was being carried out in 1998. Much information on different tour packages and promotion policies was made available in tourism information

centers, hotels, restaurants and online. Patong has also benefited from this campaign. However, the survey with tourism business people in Patong revealed several concerns in this regard.

Table 7.11 Marketing and Research

Indicators	SP	CA		ST	Remarks
		1	2		
Responsible marketing: 1. Promotional literature	- Provide sufficient information - Educate visitor before arrivals	4.13	Available but less detailed information about destination and its products Practice visitor education		More concern about insufficient marketing effort
2. Accuracy of destination literature	Genuine information		Accurate literature of destination		Good practices
Research activities: 1. Impact research	EIA prior to development Environmental auditing and monitoring	4.64	- EIA is required since 1987 Lack of environmental auditing and monitoring		Many projects did not have EIA Lack of on-going impact research practices
2. Market research	On-going destination market research		Lack of research collaboration and dissemination		Destination market research is needed
3. Information accessibility	Information about impacts and market should be available for decision making		- Lack of research and information exchange among components - Baseline information is accessible in TAT, PSB		Lack of market information

Key: Less sustainable More sustainable

As shown in Table 7.11, in general business people in Patong were not really satisfied with their marketing effort for their competitive business. There is a need for more effort to improve marketing activities, including information on its products and services, product quality as well as visitor education, which are still missing. It is commonly observed that big hotels in Patong resort, such as Ban Thai Hotel, Holiday Inn, Patong Merlin Hotel, and Golden Land Plaza & Hotel have clear marketing strategies to promote themselves to compete with rivals within and outside the resort. Many small hotels and resorts were not satisfied with their marketing and research

effort due to lack of budget and expertise as well as their poor product image. The survey found that 50 percent of respondents expressed concern with their marketing effort that was not sufficient to compete with other competitors. This is due to lack of finance and human resources for these activities. As a consequence, they were pushed into a less competitive position.

Business people showed a somewhat positive response to negative statements of research collaboration with other agencies (mean of factor = 4.64), indicating that they were somewhat satisfied with their marketing and research effort. However, they revealed that most research and baseline industry information was provided by TAT and other hotel association as well as formal statistical sources.

7.3 Summary

The evaluation of sustainable tourism practices in Patong beach indicates that while the resort makes significant economic contributions to the local economy and local residents, it has not fully achieved its goal of profitability. The achievement of social, cultural and environmental goals of sustainability is questionable. There is no doubt that the resort development helps to conserve local tradition and values and to promote traditional arts and craft production. On the other hand, it is claimed that it degrades the local and traditional culture and customs as well as the natural environment. Improvement in these areas could be achieved by individual hotels or restaurants, but rather requires responsibility and joint effort between tourism operators and government. While improvement of infrastructure for environmental protection is urgently needed to prevent “Pataya’s tragedy” before it is too late, the

investment costs have limited environmental protection practices. However, the last resort of waiting for action from government could be too late if no effort has been made to encourage cooperation among operators and government.

Different from the integrated beach resort model, it is clear that there are some advantages and gaps or disadvantages in ad hoc resort development. In terms of physical development, the products and services can be diversified to cater for a wide range of market segments that may attract more tourists into the resort. However, lack of integrated planning and control over the resort development has created the situation in which the linkage between its components is hardly established. The competition among individual properties in the resort is more severe, while competitive advantages of the resort as a whole have been weakened due to lack of cooperation and synergy in development and management.

CHAPTER VIII

EVALUATION OF SUSTAINABLE TOURISM IN DOSON BEACH RESORT, HAIPHONG VIETNAM

This chapter evaluates tourism development in Doson beach resort in terms of its sustainability. Different from any other resort in this region, Doson has a long history but low pace of development and was the first beach resort in Vietnam. Despite the fact that Doson is still in its development stage, beach water pollution and environmental degradation have threatened the sustainable development of the resort. In the absence of an integrated plan to control overall development of the resort, these problems have been accelerating in recent years when the resort has expanded at a rapid rate. To be more sustainable, much effort needs to be directed at improving the quality of its tourism products and services. The key issues are to improve the tourism infrastructure, and secure environmental protection and effective partnership between public and private sectors and among resort components to enhance its competitiveness in domestic and global markets.

8.1 Doson Beach Resort: Development and Operation

Haiphong is the third largest and the most attractive port city of Vietnam. It is 102 kilometers from Hanoi capital and covers an area of 1,507.6 square kilometers. Doson beach is located between Lachtray and Vanuc rivers, 22 kilometers to the southeast of Haiphong. It stretches along 5 kilometers of beach front backed by mountains, hills and forest. After the French arrival at Haiphong in the early 1930s, Doson was built into a renowned seaside resort for French officers and soldiers as well as the Vietnamese upper classes. However, Doson really became established as a resort after

1950 when Catbi airport was built to serve Haiphong. The beach comprises three fine sections in front of mountains and pine forests. Containing the villas of the last Vietnamese emperor then second homes of upper class Vietnamese, Doson became so attractive that many large companies and central organizations built their own guest houses for their staff holidays. Ownership of most of these guest houses has now been transferred and many have been upgraded to become hotels.

Before 1985, the local residents were not allowed to enter the second section of Doson beach which was only for high ranking government officers. Since the reforms of 1986 and especially after 1990, Doson has been rapidly developed into a well-known tourist destination. To date there are 43 hotels and 46 restaurants in Doson out of a total of 89 hotels in Haiphong city so that it accounts for almost 40 percent of the hotel room supply in Haiphong. Doson casino is the only casino in Vietnam and a major income earner for Haiphong tourism.

Despite the high growth of tourism arrivals to Doson, there was no plan for tourism development until 1994. The master plan for tourism development in the whole province has recently been completed and received approval from the provincial authorities in 1997. Unfortunately, no development plan was in place to control tourism development in Doson beach resort. As a result, *ad hoc* tourism development with low capital investment has taken place with adverse consequences in terms of quantity and quality of tourism resources. There is a lack of high class hotels and tourist services to cater for the increasing demands of visitors to Doson. The standards of the waste water treatment plant in the resort have raised environmental concerns. Several hotels, resorts and restaurants are operating illegally to avoid taxes, leading to

low quality service provision and an unfair competitive business environment. Responding to this phenomenon, in 1998 the Tourism Department of Haiphong (TDH) decided not to grant business licenses for hotels and restaurants which have low investment capital (in the case of hotels, those with under 30 rooms). In addition, many hotels are owned by ministries or central government organizations which still receive subsidies for electricity or water from their owners, have low operational efficiency and cause unfair competition. By the end of 1997, 52 hotels in Haiphong were under state ownership, accounting for 81 percent of the room supply in Haiphong. Only 37 hotels are privately owned (TDH, 1998).

8.2 Evaluation of Sustainable Tourism¹

The data and information used in this section were obtained from management, government and corporate reports and the statistics provided by Doson Town and Hai Phong City, Vietnam. The data on environmental management and impacts were provided by the Public Work Department at Doson (PWD), Haiphong, supported by field interviews and verified by field inspection. The graphical codes of evaluation are applied as mentioned in the previous chapter.

a) Sustainable Resource Use

- *Physical development*

Tourism development in Doson started in the very early days of the French invasion. The boom in tourism, however, has only occurred in the last ten years. Different from

¹ The Tables' notes are the same as in Chapter V except as otherwise indicated.

any other resort in Southeast Asia, the statistical data on the physical development of tourism in Doson may not reflect fully the history of Doson resort development due to differences in former classification of hotels, guest houses and their management schemes. However, the analysis of the physical development of Doson was based on its current development status, with sources of data thus comparable to those of other resorts in the region.

Table 8.1 Physical Development Density

Indicators	SP	CA	ST	Remarks
1. Accommodation density (rooms/ha)	34	27.3		20% lower than standard
2. Site coverage (%)	30	23.6		Sufficient public space
3. Beach capacity (meter of coast/person)	0.50	1.1		Beach congestion in peak season
4. Load factor (site stress)	1	0.37		High site stress

Notes:

- a. SP - Sustainable practice; CA - Case; ST - Sustainability
- b. For SP, Baud-Bovy and Lawson (1998), of which:
 - Accommodation density and site coverage for beach resort with closely grouped.
 - Beach capacity (meter of coast per person) is defined for resort of low standard with 20 meters depth of beach

Key: Less sustainable More sustainable

It was not until 1993 that the guest houses of different ministries and central government organizations were transferred to the status of a tourism business under the direction of the Decree 317 of the Ministerial Cabinet. This statistically led to an exceptional increase in the number of hotel rooms in the following years. The number of hotel rooms in 1997 in Haiphong was 2,508 rooms, an increase of 84.4 percent compared to 1993 (TDH, 1998). The data show a low accommodation density (27.3 rooms per hectare) and low site coverage (23.6 percent), compared to the desirable practices of 34 room/hectare and 30 percent, respectively. There is thus a low density of physical development. The beach capacity of 1.1 meter of coast per person compared to 0.5 meter of the standard indicates a very low level of beach congestion (on the assumption that 40 percent of local residents may come to the beach and

Dosen is a low standard resort because most accommodation is low class comprising

The architectural design relates to the period when Doson moved from a resort based on public welfare to one more commercial in outlook. Most hotels in Doson are concrete and bulky buildings with a modern appearance. It is very rare to find any special feature in the landscaping and interior design of hotels and other tourism properties that reflect the features of local culture or Vietnamese traditional heritage, except for a few restaurants and shops. In addition, the clearance of land for building hotels and restaurants has not been compensated for by replanting and landscaping. No set back limit was established to protect the beaches and conserve public space. Many hotels, restaurants and shops are located right on or next to the beaches, which has caused beach erosion and pollution. The resort fails to offer the aesthetic appeal of a tropical beach resort or exploit its association with a thousand year-old mythical legend of the nine dragons' land.

- *Resort accessibility*

Table 8.3 Accessibility to Doson Resort

Indicators	SP	CA	ST	Remarks
1. Accessibility for international tourists	- International access and availability	- 10 indirect flights per week - 11 tourist ships per years		All are indirect flights from Danang and Ho Chi Minh City
2. Accessibility for domestic tourists	- Easy accessibility and comfort	- Accessible by air, train, bus and ships - 5 trains per day from Hanoi		Low level of comfort
3. Day trippers/ residents: - Transport - public amenities	- Good internal circulation and comfortable services - Available tourist information, phone booths, public toilets, car park, signages, beach access.	- Not good internal circulation, by trishaws and taxi - Low level of comfort - No signage - Lack of public toilets and public phone services		Congestion in the peak season - Very poor public amenities - Free beach access to people after 1985

Key: Less sustainable More sustainable

Doson beach resort as the major tourism destination of Haiphong is easily accessible by road from Haiphong Port city, a journey which takes around 30 minutes. Visitors can come to Haiphong by train, bus, car, plane or cruise ship. Currently, there are several projects being carried out to upgrade Haiphong port, Catbi international airport and Highway No. 5 from Hanoi to Haiphong. The completion of these projects will help to make Doson more accessible to tourists. The Doson international tourist and entertainment center is in the construction phase, and is expected to attract a high tourist influx into Doson in the coming years. In the Haiphong tourism master plan, Doson is recognized as a link with other tourist attractions which form the tourism triangle “Doson-Catba-Halong Bay” and enhances the competitive advantage of Doson. From Doson, visitors can take a motor boat to Catba National Park and to Halong Bay, the world famous natural heritage site.

There are 10 flights per week to Haiphong city, but all are indirect flights from Danang and Ho Chi Minh City. According to official estimates, which appear rather over-optimistic, Haiphong planned to welcome 2 million tourists (including 200,000 international tourists) in the year 2000, and 3.5 million in the year 2005 (including 500,000 international tourists), which is still under the carrying capacity of Haiphong transportation services. Besides, Haiphong is the largest seaport in Vietnam where foreign ships dock on international cruises. At present, it is reported that Haiphong receives 11 tourist cruise ships annually.

For domestic tourists and day trippers, train and bus are common transportation means. However, there have been concerns about the quality of internal transportation services for international tourists, domestic tourists and day trippers, with complaints

about waiting times, crowded bus services and poor standards of vehicles. The problem of internal circulation and congestion appears serious during the summer, the peak tourist season in Doson. Another problem is poor public amenities in the resort. Lack of public parking spaces, road lighting, telephone services, and public toilets have been among major complaints by tourists in Doson. Unfortunately the problems were largely ignored and there was no known plan for improvement of public amenities.

• Biodiversity

Table 8.4 Biodiversity

Indicators	SP	CA	ST	Remarks
1. Road green cover (trees/m of road)	100*	24		No trees on many parts of roads, except on central beach
2. Public green space (m ² /bed)	≥ 30**	7.6		Low public green cover
3. Changing in flora and fauna	Conservation of flora and fauna	- Clearance of forest - Lost of indigenous trees - No regulation on flora and fauna protection		- Lost of natural habitats, less replacement - Lost of tree species

Notes:

a. SP - Sustainable practices; CA - Case; ST – Sustainability

b. Baselines:

* Refer to Batu Ferringhi case.

** Baud-Bovy and Lawson (1998)

Key: Less sustainable More sustainable

Located in a narrow low land strip between beach and hills and forest within the belt of the tropical monsoon, Doson beach is very vulnerable to environmental changes. During the last decade much land has been cleared as a result of tourism expansion and urbanization which has threatened the flora and fauna in Doson. Though the problems were recognized by local authorities, no significant effort has been made to improve this situation (Table 8.4).

It was reported by the PWD at Doson that lack of a master plan for overall development, as well as uncontrolled tourism expansion in Doson during the last decade, has caused many environmental problems. Land and forest clearance has caused environmental degradation in Doson. The interview with government authorities indicated that loss of green cover was a major concern, which threatened biodiversity and caused the loss of the resort's aesthetic appeal. In pursuit of short-term benefits, much effort has been devoted to development and environmental quality and sustainable development has been compromised as a result. Due to lack of resort delineation and planning as well as weak enforcement of environmental protection regulations, several projects are still being carried out at the expense of trees and land. Even some pine trees, which were estimated to be more than 100 years old, were cut down to free land for construction. Some hill and forest areas were cleared for new settlement of residents, which accelerated deforestation and caused many off-site effects down river.

Though there are no specific inventories of flora and fauna in Doson, the interviews with government authorities and field inspection verified the above facts. On the beach now there are only two common tree species, casuarina and coconut. The primary tropical forest trees are hardly found. A large area of pine forest has been cleared, though some effort has been made to replace it with acacia or eucalyptus trees. There were an estimated 24 trees per kilometer of road in the resort. The public green space was very low per bed compared to a desirable practice of at least 30m². The standard is a recommended 20-40m² per bed (Baud-Bovy and Lawson, 1998); however, in the case of a closely grouped and low standard beach resort like Doson,

30m² should be a reasonable standard. There is therefore a lack of green cover in the resort, though it had a low site coverage and high amount of public open space compared to other cases of *ad hoc* development in this study. The fact is that most open space in the area was denuded or covered with concrete (hard landscaping) surrounding hotels, restaurants and shops. At present the public park area in the resort is very low, 0.32m² per person (PWD, 1998).

Recognizing the need to conserve the natural environment, in recent years government authorities have made considerable efforts to protect public green cover and plant new trees on the beach and main roads with an annual requirement of planting 2000 trees. Also, trees in the resort must not be cut unless permission is granted either by the PWD or the city authority. However, the local authority complained that it has not been able to make much significant improvement due to lack of community participation. Annually, an estimate of 50 percent of newly planted trees were reported to be damaged by locals (PWD, 1998). The local authority also revealed that a collection of tree species for re-greening the resort is still underway.

- *Environmental management practices*

Table 8.5 Environmental Management Practices and Impacts

Indicators	SP	CA	ST	Remarks
1. Solid waste managed (%)	100	<40		Low collection and disposal capacity
2. Waste water treatment (%)	100	<20		- No central treatment plant - Only 20% of hotels practiced
3. E.coli counts (MPN/100ml)	≤ 100	>750		- High water pollution
4. Soil and beach erosion practices	Avoid soil and beach erosion	Severe		Beach erosion and high sedimentation

Key: Less sustainable More sustainable

Though the physical development density in Doson was not as high as in other resorts, the negative impacts on the local environment have become serious because of the lack of environmental management practices and poor tourism support infrastructure. Environmental protection has not received due attention from tourism developers and operators. A major cause was largely attributed to the lack of environment laws and weak enforcement of regulation, although an Environment Law was recently enacted in 1995. As a consequence, the resort is threatened by the problems of environmental degradation. Table 8.5 and Table 8.6 present the analysis of environmental management practices in Doson.

- Solid waste management and waste water treatment: Waste collection and management (both within the resort and resident areas) have been the responsibility of the Public Work Company of Haiphong, whose operation is totally subsidized by local government with an annual fund of VND2 billion. Each tourism property is required to sign an annual contract with this company for their services. The solid waste is collected and transferred to a disposal site, which is located 3 kilometers from Doson town. However, the garbage and solid waste are not classified before disposal. Landfill is the only method for disposal, which can directly affect the fish and marine life because the site is located near the coastal zone. Due to limited resources including carriers (only one truck) and labor (87 workers), the collection of garbage has not been fully carried out, especially in residential areas. It is reported that at present total collection capacity can cover only one third of Doson's population. Several tourism firms avoid signing the contract, though the fee is very

low, at USD4 (VND50,000) per month. The existing disposal site has already reached capacity (PWD, 1998).

According to the local authority, to date no central treatment system has been built for sewage treatment in Doson. Before 1995, all waste water was discharged directly into the sea without any treatment. Thanks to the newly enforced environmental protection law in 1995, tourism firms are required to build their own treatment facilities (septic tanks or filter beds). However, this kind of treatment system was reportedly very inefficient and had a low capacity. Only 20 percent of hotels were found to have active treatment facilities. Most restaurants and shops have not met this requirement. As a result, the problem of sewage discharge still exists in Doson.

- Pollution control: While air pollution is reported not to be a problem in Doson, thanks to the low congestion level and low density of tourism development, water pollution is severe. The discharge of waste water directly to the sea was one of the main causes of beach pollution. In addition, the incidence of oil discharged by foreign ships off shore has been reported to be very high, floating onto the beaches and worsening water pollution problems (Nguyen, et al. 1996). Recent research shows that the temperature of marine water in Doson was lower than other monitored sites due to suspended water discharges. The number of coliform ranged from 535-2415 MPN/100ml at different sites of coastal areas including Doson (Nguyen, et al. 1996), where it was more than 750 MPN/100ml. This indicates a very high level of water pollution.

- Soil and beach erosion control: Lying in the tropical monsoon climate with physical constraints, Doson must practice beach erosion control. More than 5 kilometers of concrete dikes (5040meters) were built to prevent soil and beach erosion. However, the problems of soil erosion and deforestation were intensified due to land and forest clearance for hotels, housing and road buildings on-site and in the surrounding areas of Doson. Sedimentation and mud invasion have caused serious beach pollution, which turns the marine water a brown color, especially at low tide. In addition, many hotels and restaurants were built on the beaches due to there being no set-back limit, which exacerbates the beach erosion problem. Apart from the consequences of tourism development, the construction of a new dam for land reclamation at Dinhvu which is about 20 kilometers from Doson, has led to heavy sedimentation in Haiphong port and its vicinity including Doson beaches. Though there is no formal research on this, the issue is recognized by Doson authorities as one of the factors contributing to sedimentation problems in Doson.

- Water and energy saving:

Table 8.6 Water and Energy Saving Practices

Indicators	SP	CA			ST	Remarks
		1	2	3		
1. Water Saving	Reduce consumption Reuse water	12	0	0		Not practiced in most properties
2. Energy Saving	Use energy saving lighting bulbs Use gas, solar and wind energy Auto switch-off system Reduce use of air-cons	38	71	67		Natural ventilation and use of gas are common practices
3. Recycling	Use of recycle papers Reduce use of plastics Recycle used water	0	0	0		Not practiced

Key: Less sustainable More sustainable

Table 8.6 presents the water and energy saving practices in Doson. Compared to other beach resorts in the region, the tourist and resident ratio in Doson was high (average of 5.6:1). With an increase in tourism arrivals to Doson in recent years and high tourism seasonality, there is competition for water and electricity and supplies are inadequate and unreliable. The clean water is supplied by a plant of 6,000 cubic meters per day, which only meets the demand at normal levels (PWD, 1998). The problem of water shortage becomes very serious in the peak tourism season in summer. Unfortunately, the survey of hotels and restaurants in Doson revealed that lack of regulation and incentive policies on water and energy saving, as well as poor infrastructure, discouraged practices of sustainable resource use.

As shown in Table 8.6, water saving was largely ignored by tourism businesses in Doson. However, the high cost of electricity has encouraged some energy saving practices. Most of the hotels and restaurants used natural ventilation and gas for cooking rather than electricity. Street lights in the resort were on only three night per week, which was the result of the government's limited budget for lighting (VND200million - less than USD15,000 per annum). Such a measure was not good for visitors and diminishes the resort's public amenities.

b) Economic Benefits and Opportunities

- *Local residents*
- Employment opportunities: Tourism and tourism-related services in Doson have provided many job opportunities for local people. At present there are a total of 1904 workers in hotel and tourism industries, and more than 99 percent are locals. These

data exclude

The survey of local people found that both business representatives and local residents were satisfied with tourism as it increases job opportunities for locals. The business representatives showed a positive response with a mean of 5.64 to the statement about tourism's role in job creation. Likewise, the response of residents loaded in the factor of social and cultural impacts with a mean of 5.39 (refer to summary of factor analysis in Appendix 14).

- Income improvement: Traditionally, fishing and aquaculture were important income sources which generated the highest income for local residents. However, with the boom in tourism since 1990, it was reported that tourism now brings in the highest income for locals. The average income of tourism workers in the formal and informal sectors was 25 and 50 percent higher respectively than the provincial average income of workers. The GDP per capita created by tourism was the highest of all industries: 2.4 million per annum compared to 2.07 on average and the lowest listed of 1.45 million in salt making (Appendix 12). The survey also found that tourism and tourism-related businesses have provided a higher return on investment which ranged from 30-50 percent, compared to 7-8 percent in agricultural production. More important, local people as well as local authorities stated that the income from tourism business is more secure than that of natural resource-based production activities.

- *Local economy*

- Tourism revenue: The Doson beach resort is in its development stage, which is characterized by fast growth but small-scale and low development intensity. Tourism now contributes only 6 percent of Doson's GDP, and 4 percent of the city's GDP.

However, it has been forecast to become an important economic sector in Doson in the next millennium with a consistently high growth rate. During the period 1990-1997, the annual growth of tourist arrivals in Haiphong and in Doson were 22.8 and 25.6 percent respectively. This contributed to a corresponding increase in tourism revenue, at a rate of 24.8 and 26.2 percent per annum in Haiphong and Doson, respectively (HSO, 1998).

- Local ownership: As mentioned above, except for Doson Casino, most tourism properties in Doson were under national and local ownership and of a small scale. The latter accounted for more than 95 percent of businesses in the formal sector and 100 percent in the informal sector. Around 50 percent of properties in Doson are privately locally owned and the rest are under state-owned companies, either at city or national level. This suggests low economic dependency and leakage. However, it can be argued that a high percentage of nationally-owned properties, usually large-scale, causes a loss in tourism revenue accruing to the local economy. However, economic leakages should be considered within the context of the provincial and country economy, rather than that of the resort.

- Range of local sale items: The survey found that more than 80 percent of tourism goods and souvenirs were locally-made such as T-shirts, garments, tapestry, wooden souvenir items, etc. Unlike many other beach resorts in the region, Doson is well-endowed with natural resources making possible the sale of aquatic and agricultural products, and most food items are produced in situ. However, it was found that some consumer goods were imported from China.

The statistical data on tourist expenditure in Vietnam in 1997 showed around 15-20 percent of tourist spending was on food and beverage, 20-25 percent on souvenirs, and 30-35 percent on accommodation. There is no specific data for Haiphong and Doson in particular. However, on the assumption that Doson corresponds to the national data, the revenue made from sales of local items is a significant contribution to the local economy.

- Economic diversity: The arrival of tourism in Doson has been welcomed as a new source of employment and income generation, according to local residents. Beside jobs in hotels and restaurants, tourism has created many positions in other small-scale enterprises which makes up the informal sector, such as transportation, retailing and food outlets. The number of these enterprises mounts up to hundreds of units in Doson and its vicinity. The statistical data show that tourism and related services involve 18 percent of Doson's population compared to 10 percent of the province's and 1 percent in the country, and has become the second largest employer (after fishing). However, in comparison to other resorts such as Batu Ferringhi and Patong, local people in the Doson resort were not totally dependent on tourism for their livelihood, because there are many other job opportunities. The high seasonality of tourism also encourages employment in other sectors. For households which are directly involved in tourism and related services, tourism income accounted for only 20-40 percent of their annual income.

- *Tourism business*

Being in the development stage, Doson is enjoying stable growth in tourist arrivals including international tourists. As shown in Table 8.7, tourism arrivals and revenue

have grown annually at a rate of 25.6 and 26.2 percent respectively during the period 1990-1997. However, due to high growth in the number of hotel rooms in recent years, the average occupancy rate was very low and decreased from an average of 79 percent in 1993 to 41 percent in 1995 and 45.02 percent in 1997. This matches the lowest monthly occupancy rates in several other beach resorts in Southeast Asia. Annually the occupancy rate has dropped 2.3 percent during 1990-1997. This was also the situation in Haiphong province which suffered from a decline of 3.2 percent per annum. According to hotel operators and tourism administrators, at present there is an oversupply of low rank hotels but under-supply of high rank hotels in Doson. Therefore, the high rank hotels were more profitable and enjoying very high occupancy rates, while low rank hotels and guest houses suffered from low occupancy rates. Some hotels even had an occupancy rate lower than 20 percent. Referring to the tourist profile in Doson, this phenomenon is explained by the fact that the majority of guests were on group tours or traveling for conferences and meetings. These visitors stayed in large hotels mainly and tend to spend more on company accounts.

In addition, due to unfavorable climatic conditions, tourism in Doson was highly seasonal with a peak from May to August and especially in May and June. The rest of the year, it was almost abandoned. This explains why Doson experienced a very low seasonal efficiency of resource use as mentioned before, with a load factor of only 0.37 (compared to 0.68 and 0.76 in the case of Patong and Batu Ferringhi resorts, respectively). However, tourism revenue has been increasing over the years despite the low hotel occupancy rates. According to the survey, almost 80 percent of properties stated that they obtained their profit goals. In general, most businesses showed satisfaction with their trade for the previous five years and were optimistic

about profitability in the next five years. This may be understandable at the development stage of the resort. The low cost of investment under the former subsidy system may also have contributed to their profits, although the occupancy rates were very low as mentioned above.

c) Socio-Cultural Impacts

Table 8.9 Locals Response to Tourism Development

Indicators	SP	CA		ST	Remarks
		Business	Local		
1. Socio-cultural impacts	- Conserve culture and traditions - Increase awareness of cultural values - Promote art and craft production	5.37	5.39		Positive response to tourism's role in cultural conservation and promotion of art and craft production
2. Economic impacts	Job opportunities for local	5.64	5.79		Positive response to tourism' role in promoting other sectors
	Promote other sectors				
	Income and tax revenue	-			
	Increase cost of living	5.38			
4. Environmental impacts	- Avoid negative environmental impacts	4.31	4.22		Neutral response to negative impacts
5. Improving quality of life	- Increase image of area - Improve quality of life - Local support to tourism	5.23	5.46		Tourism improve quality of life

Key: Less sustainable More sustainable

As shown in Table 8.9, business representatives and local residents expressed a neutral attitude to the environmental impacts of tourism, but perceived the role of tourism in cultural conservation and enhancement positively. They expressed their objection to social and cultural negative impacts of tourism in terms of modernization and industrialization. Local residents showed their positive response (5.39) to tourism's role in conserving their cultural values, arts and craft production. Both businesses and local residents showed a positive response to the statements about

tourism's role in improving quality of life (means of factors are 5.23 and 5.46, respectively with non-significant differences among people of different ages, gender, education levels and jobs). These indicate a low level of host-guest irritation in Doson. However, this does not mean that the resort is socio-culturally sustainable unless consistent efforts are made to enhance cultural values as well as reduce the host-guest discrepancy and its negative impacts on traditional lifestyles. According to the residents, many local traditional festivals and historical cultural heritage sites have been conserved and promoted for tourism which helps to preserve their cultural value, examples include conservation of temples, commune houses, a buffalo-fighting festival, puppet shows and swing festival.

d) *Tourism Planning and Staff Training*

Table 8.10 Planning, Staff Training and Influencing Factors

Indicators	SP	CA		ST	Remarks
		1	2		
1. Planning integration	- Integrate tourism into overall development plan	3.30	No master plan prior to development		No planning integration
2. Local involvement	- Promote partnership - Consultation between the industry and related organizations and local communities	3.82	Very limited practices and only with large hotel properties		Not consulted with local communities
3. Institutional arrangement	- Clear guidelines and public agenda for integrated planning	5.40	Lack of public agenda for participation		Mainly through central planning mechanism
4. Training staff	- Available training opportunities for staff - 10% managerial - 20-30% skilled - 60-70% semi-skilled	5.07	>50% unskilled staff		Mainly for managerial level
5. Environmental awareness training (% of hotel staff)	- Integrated environmental, social cultural issues in training programs	-	0		No practice

Key: Less sustainable More sustainable

Different from any other sites in this study, tourism planning in Doson is under the control of a centrally-planned system, which is mainly based on a top-down decision making process. However, the survey found that tourism businesses and administrators supported the importance of integrated planning for sustainable tourism as well as the necessity of public participation in tourism planning. Unfortunately, the response from small tourism business firms and local people showed that they have not been given a chance to be consulted or involved in tourism planning (Table 8.10). None of the small and private hotels, but several large hotels, mentioned their participation in local and provincial tourism planning. Lack of formal guidelines and an agenda was regarded as a major constraint to public participation in tourism planning with a mean factor of 5.40. The study also found that though the provincial plan was made public to all tourism properties, it appeared not to interest people because they perceived that they had little voice in the planning process. Participation in planning was mainly by large hotels and limited to formal government planning channels, a top-down approach which usually excluded small businesses and local residents.

Human resource development was another issue in Doson resort. In recent years, the TDH has made many efforts to assist training activities. Since its establishment in 1995, the TDH has provided training opportunities for 1,000 staff in the public sector in the whole of Haiphong city. The TDH also established a link with some universities and colleges to conduct part-time training courses for their staff. However, the number of skilled and semi-skilled workers in hotels and restaurants is still very low, less than 30 percent. The survey found that at least 50 percent of tourism employees were unskilled. It is also reported that around 30 percent of trained

staff moved to other sectors due to low career recognition. The same portion moved to the private sector for higher payment. Training opportunities and integrated training programs were not available for staff. No "green" training program has been provided to date in Doson. Efforts are being made to train staff at managerial level and the TDH recently prepared a plan to provide more opportunities for formal staff training, but financial difficulty was mentioned as a major problem in training activities, unlike in other sites, where this problem is not stated (Appendix 14). This circumstance is different from other resorts in the study, where financial problems were not a major constraint on staff training.

e) *Marketing and Research*

Table 8.11 Marketing and Research

Indicators	SP	CA		ST	Remarks
		1	2		
Responsible marketing: 1. Promotional literature	- Provide sufficient information - visitor education	5.35	Insufficient destination information No visitor education		Insufficient marketing effort
2. Accuracy of destination literature	Genuine information		Accurate but superficial information		Poor product information
Research activities: 1. Impact research	- EIA prior to development - Environmental auditing and monitoring	3.24	No EIA before 1995		Lack of prior impact research
			No environmental auditing and monitoring		Lack of on-going impact research
2. Market research	On-going market research		No destination market research		Lack of market research
3. Information accessibility	Information about impacts and market should be available for decision making		Poor tourism information database		Unavailable tourism information

Key: Less sustainable More sustainable

As commonly observed in many other destinations in Vietnam, marketing and promotion is a major problem in the tourism business nowadays. This is not only

because of limited financial resources, but also lack of experience and expertise in marketing and promotion activities. Doson is not exceptional in this regard. The TDH as the local government tourism authority has given some support to marketing and research activities. However, they recognized that this support was minimal. Collaborative effort among individual properties and the local tourism body is a vital factor for successful tourism development, but this is still absent in Doson despite the fact that it is a major tourism attraction of Haiphong. Table 8.11 presents the marketing and research activities of those in tourism in Doson.

It can be said that most tourism marketing and promotion to date in Doson has been based on government support and that the promotion of Doson and Haiphong in international markets has been very limited. The marketing effort of individual properties has been restricted to advertising in local newspapers and Haiphong television, or at most on national television in a few cases. The TDH recently introduced a tourism promotion program on Haiphong television which was broadcast for 10 minutes every month. It also produced some materials to promote tourism in the city and in Doson in particular such as brochures and video tapes. The information, however, was still insufficient and not always available to visitors before or after their arrival. The visitors could consult only two brochures about Haiphong tourism with the necessary contact addresses, and flyers of some individual hotels. These documents provide a list of tourism attractions in Haiphong and have only very general information. The distribution was also limited to certain hotels, travel agents and TDH. No visitor education program was provided. The survey found that more than 80 percent of hotels showed a profound concern about insufficient marketing and

promotion activities, but not much attempt was made at improvement due to limited resources.

Likewise, lack of research activities and especially of environmental research and auditing was another concern about sustainable tourism development in Doson. There were no environmental impact assessment studies required before the enactment of the Environment Law in 1995. Developed on an *ad hoc* basis, tourism development in Doson has caused many environmental impacts which require on-going environmental research and auditing if the resort is to be sustainable. Any improvement in this regard seems unlikely.

8.3 Summary

Though Doson has experienced a long history of development as a seaside resort, its slow pace of development has kept it at only the development stage of the resort life cycle. Tourism has gained high support and priority as an important economic activity in local development strategy due to its significant contribution to job creation and income generation. Equally important, tourism in Doson is known as an important catalyst for the conservation and enrichment of the local cultural and historical assets, which are disappearing because of rapid industrialization and modernization.

Despite low development density, *ad hoc* tourism development in Doson has generated many problems economically and environmentally. Low investment and lack of environmental concern about development and operation have resulted in low service quality. To be more sustainable, much effort is needed to improve

infrastructure and facilities for environmental protection and enhancement, rather than pay for mitigating costs which would be very high. Doson faces the common threats of ad hoc development. Though the resort is in the development stage, it is threatened by environmental degradation, loss of aesthetic appeal and insufficient marketing and promotion. As far as interaction and dependency among components of sustainable development are concerned, the absence of an integrated tourism development plan has emerged as a major barrier to the achievement of sustainable development goals in Doson.

With growing interest in sustainable tourism, businesses are more aware of the problems and search for a more responsible tourism management strategy. Unfortunately, inefficient institutional arrangements have discouraged sustainable practices. A fierce competitive business environment has arisen among individual properties within the resort as tourism development is expanded, while its competitive advantages in regional and international markets have been weakened due to lack of cooperation among resort components.

CHAPTER IX
SYNTHESIS OF CASE EVALUATION

In order to test the hypothesis that *ad hoc tourism development as represented by beach resorts in Southeast Asia does not result in sustainable tourism*, this chapter will compare all the ad hoc cases in an attempt to establish any general pattern or commonality of tourism development in beach resorts in Southeast Asia. Such a comparison will allow a better insight into current major tourism development practices in the region in terms of their sustainability. This also represents a further step towards the establishment of an operational model of sustainable tourism.

The following graphic coding is used to summarize the general patterns of sustainable tourism practices across the cases:

Table 9.1 Generic Coding of Case Synthesis

Case 1	Case 2	Case 3	Summary of Cases
			More sustainable
			Less sustainable
			Indeterminate
			More sustainable with exception
			More sustainable
			Indeterminate
			Indeterminate
			Less sustainable
			Less sustainable with exception
			Indeterminate

Key: Less sustainable More sustainable

9.1 Sustainable Resource Use

Sustainable tourism principles require the sustainable use and conservation of resources as well as respect for the value of the natural environment. Tourism development should promote environmental protection and conservation as a viable

business. Rapid and unplanned development, over-construction, excessive numbers of visitors and lack of support infrastructure will sooner or later cause damage to the resource bases (natural and human), environmental pollution and destruction of natural habitats which, in turn, undermine future development. Despite increasing recognition of the interrelationship between sustainable resource use, environmental conservation and economic growth, sustainable tourism development and management are still wanting.

9.1.1 Physical Development and Environmentally Sensitive Design

Table 9.2 Physical Development and Environmental Sensitive Design

Indicators	BF	PT	DS	Summary of Cases
1. Accommodation density				Less sustainable
2. Site coverage				Less sustainable with exception
3. Beach capacity				Indeterminate
4. Load factor				Indeterminate
5. Image				Indeterminate
6. Landscaping				Less sustainable
7. High water set-back limit				Less sustainable
8. Energy saving designs				Indeterminate

Note: BF: Batu Ferringhi; PT: Patong; DS: Doson

As shown in Table 9.2, there was high accommodation density in the cases of Batu Ferringhi and Patong which were at least 25 percent higher than recommended sustainable practice. The site coverage ratios were also higher than the desirable practice in these cases. As a result, lack of public green space has caused the loss of resort aesthetics and disturbance of natural habitats. Though the physical development was slightly different in the Doson case, the problems appeared the same as in other *ad hoc* cases. The accommodation density was not as high as the two other *ad hoc* cases and still within the permissible limit. It, however, faced the common problems

of uncontrolled growth and over-built low-class hotels, while there was a shortage of supply of the high-class hotels.

Another problem related to high seasonality in all cases. The beach use was found not to have exceeded its capacity, except for the case of Batu Ferringhi. However, there was a problem of beach congestion during the peak season, especially in the case of Batu Ferringhi and Doson. Doson resort had experienced the highest site stress in the peak season with a load factor of only 0.37. The load factor was not low in the case of Batu Ferringhi and Patong, indicating a moderate level of efficient use of resources and low site stress during the peak season.

Regarding architectural and landscape design, it was found that environmentally sensitive design was largely ignored in all *ad hoc* cases. Most properties were more affected by international influences in architectural design. The landscaping was poor, especially of restaurants and shops that mushroomed along with the boom of hotels in the resorts. The explanation probably lies in the development approach that was mostly demand-led and on an *ad hoc* basis. The value of the environment to tourism businesses has not been fully acknowledged until recently. In other words, in the absence of a master plan as a blueprint for sustainable tourism development, the practices of environmentally sensitive design were very limited in *ad hoc* cases. The impacts could be irreversible.

9.1.2 Accessibility

Table 9.3 Resort Accessibility

Indicators	BF	PT	DS	Summary of Cases
1. Accessibility for international tourists				More sustainable
2. Accessibility for domestic tourists				More sustainable
3. Day trippers/ residents				Less sustainable

The study found that good resort accessibility was a catalyst for tourism development in all cases. As shown in Table 9.3, all cases were easily accessible for international and domestic tourists. However, high congestion and lack of provision of public amenities were common problems in all cases. While there was no access control to the resorts, lack of public parking space and lack of internal circulation services caused high congestion within the resorts, especially in peak season. Besides, poor public amenities contributed to visitors' dissatisfaction.

9.1.3 Biodiversity

Table 9.4 Biodiversity

Indicators	BF	Patong	DS	Remarks
1. Road green cover				Less sustainable
2. Public green space				Less sustainable
3. Changing in flora and fauna				Less sustainable

Biodiversity as a tangible resource and an important element of the resort environment needs to be conserved and enriched. The evaluation of biodiversity in this study was viewed in terms of two major aspects: species diversity and conservation of natural habitats. The data in Table 9.4 show that lack of green cover, lost of natural habitats and lost of tree species were common problems in all *ad hoc* cases. The cause is rooted in lack of zoning and a proper land use plan for resort

development as a whole. As a consequence, the aesthetics of the resort environment were compromised by a loss of tree species and disturbance of natural habitats, which in turn threatened sustainable development. Improvement is therefore needed if the resorts are to be more sustainable. This requires more collective effort by tourism operators as well as government intervention. This provides evidence that an overall development plan prior to the development is a prerequisite for integrated sustainable development.

9.1.4 Environmental Management Practices

Table 9.5 Environmental Management Practices and Impacts

Indicators	BF	PT	DS	Summary of Cases
1. Solid waste management				Less sustainable
2. Waste water treatment				Less sustainable
3. E.coli counts				Less sustainable
4. Soil and beach erosion practices				Less sustainable
5. Water saving				Less sustainable
6. Energy saving				Less sustainable
7. Recycling				Indeterminate

As shown in Table 9.5, due to a high growth of tourism development and urbanization, the problems of environmental pollution and degradation appeared serious in all *ad hoc* cases. These were related to low capacity of solid waste management and waste water treatment systems as well as lack of effective efforts to protect the environment. The above data indicate that none of the *ad hoc* cases has effectively managed/treated solid waste and waste water. In the Doson case, less than 40 percent of solid waste and 20 percent of waste water were managed properly. The same situation was found in other *ad hoc* cases. As a consequence, the accumulated garbage and illegal dumping in these resorts have caused serious environmental pollution. Marine water was heavily polluted due to the discharge of untreated or

poorly treated effluent into the sea. The sea in Batu Ferringhi was no longer safe for swimmers because of the high concentration of E.coli bacteria. Similarly, in the Doson case the E.coli concentration was very high, alongside high sedimentation and mud invasion, which were major causes of beach water pollution. The situation was better in the case of Patong, but efforts will be necessary to prevent water pollution in order to stop it following the other cases. Though the E.coli was found to be low (less than 80MPN/100ml) in some parts of Patong beach, pollution did occur in the southern beach, where the E.coli count was up 280MPN/100ml. where there is high concentration of hotels and other tourism properties.

Another concern is soil and beach erosion control. While the causes of soil and beach erosion range from natural factors to human intervention, it was found that soil and beach erosion were common problems in all cases, though the severity varies from place to place and much depends on prevention measures. The study found that the problems of soil and beach erosion were severe in *ad hoc* cases due to lack of collective effort to prevent soil and beach erosion though some measures were applied by certain individual properties.

In principle, water and energy saving as well as recycling practices are recognized as primary measures to reduce levels of resource consumption and protect the natural environment as well as save operation costs. For nature-loving visitors, these practices will help enhance their experiences and satisfaction. The study found that though energy and water saving and recycling practices were recognized by businesses in all cases, the practices were very limited in some properties in the resort and with some measures. As shown in Table 9.5, the practices of water and energy saving and

recycling practices were uncommon in all *ad hoc* cases. In Batu Ferringhi, 50 percent of hotels and other properties practiced some measures for saving water and energy such as natural ventilation and recycling used water. The same situation was applied in the cases of Patong and Doson, though they were facing problems of water and energy shortages. The survey of business representatives found that the causes lie in lack of technical guidance, high investment costs of environmental conservation and protection and lack of incentive policies.

9.2 Economic Benefits and Opportunities

Table 9.6 Economic Benefits and Opportunities

Indicators	BF	PT	DS	Summary of Cases
1. Job opportunities				More sustainable
2. Income improvement				More sustainable
3. Economic diversity				More sustainable
4. Local ownership				More sustainable
5. Range of local sale items				More sustainable
6. Tourism revenue				More sustainable with exception
7. Tourist arrivals				More sustainable with exception
8. Occupancy rate				Less sustainable
9. Tourist expenditure				More sustainable
10. Profitability				More sustainable

Economic sustainability implies a steady growth of tourism business as well as fairness in benefits and cost sharing. In this study, the evaluation of economic sustainability was based on the economic benefits and opportunities that tourism development brought to tourism businesses, the local economy and local residents. Equally important, sustainable tourism development should furnish local economic diversity, economic linkage and avoid economic leakage and dependency.

The study found that resort development in all cases has created many job opportunities for locals, which is reflected in the point that more than 97 percent of the tourism workforce were locals. Though there is no recommended sustainable practice on ceiling rate of foreign employment in these cases to date, the analysis shows that foreign employment of less than 3 percent across the cases is good practice¹. Tourism does not replace, but can promote the development of other economic sectors in these destinations such as agriculture, food processing, construction etc. In terms of economic diversity, a low employment ratio of 18 percent in the case of Doson shows low dependency of local people on tourism jobs. However, this ratio was found to be high, 65 and 35 percent, respectively in the cases of Batu Ferringhi and Patong. Unfortunately, no standard for this evaluation was found and the analysis of dependency on tourism jobs was made with reference to family size and income earners. In the case of Batu Ferringhi, more than two thirds of family labourers (3 out of 5 in a family of 10) depend on tourism income, indicating dependency on tourism jobs, though there were more diverse job opportunities in the state. This is less problematic in the case of Patong, where the family size was 5.5 persons and 1 out of 3 family labourers depended on tourism jobs.

Regarding economic leakage, again no standard of sustainable practice is available to date, but several case studies provided a reference for this analysis (Pattullo, 1996, Zheng, 1996). A case study of China showed successful efforts to prevent economic leakage which was only 25 percent of foreign financing in the lodging sector (Zheng, 1996). This study found the ratio of foreign to local shares in the lodging sector was less than 20 percent across the cases, which indicates a low financial leakage and low

¹ Singapore's standard was less than 25 percent

dependency on foreign partners. Likewise, a high percentage of more than 70 percent of local sale items in all cases shows an indication of low operational leakage. The leakage due to a high import bill for goods and services in Caribbean tourism was on average 70 percent, even up to 90 percent in the Bahamas. The lowest one was 37 percent in the case of Jamaica (Pattullo, 1996).

For tourism businesses, all cases have experienced a steady growth rate of tourism arrivals, tourist expenditure and hence tourism revenues indicating economically sustainable tourism business. Most tourism businesses claimed to have obtained their profit goals during the last five years. However, the declining trend was firstly evident in Patong resort with negative growth rates of tourist arrivals, occupancy rate and tourism revenue. A declining trend in occupancy rate during the last decade in all *ad hoc* cases indicates evidence of over-construction of hotels. Besides, the recent regional economic crisis, haze problems and environmental degradation appeared as major threats to the profitability of tourism businesses in the region. These factors explained why business people were less optimistic about their business prospect in the next five years.

In terms of income generation, the study shows that in all cases tourism jobs brought in higher income for locals both in the formal and informal sectors. The average incomes of tourism workers were about 20 percent and 50 percent, in the formal and informal sectors, respectively, higher than the provincial/state average incomes of workers, except for the case of Batu Ferringhi. Though there is a question of the reliability, the data show a low average income of new tourism employees in the formal sector in Batu Ferringhi, which was as low as 60 percent of the basic salary of

factory workers (PDC, 1997). However, in term of its income improvement, the high proportion of tourism workers in the informal sector earns a higher income, which outweighs that of the formal sector.

9.3 Socio-Cultural Impacts

Table 9.7 Residents' Response to Tourism Development

Indicators	BF	PT	DS	Summary of Cases
1. Socio-cultural impacts				More sustainable
2. Economic impacts				More sustainable
3. Environmental impacts				Less sustainable
4. Improving quality of life				More sustainable

Although tourism development brings job opportunities and other economic benefits to the local people, tourism also often causes negative impacts on the local social and cultural environment. High local hostility to tourism development, lack of local support and detrimental impacts of tourism on local culture will be damaging to tourism development. To be sustainable, tourism development is required to conserve the local cultural values, and respect local needs and rights to resource use. The evaluation of socio-cultural impacts of tourism was based on a questionnaire survey of people's perception. As discussed in previous chapters, business representatives in all cases tend to be positive in response to impacts of their businesses on the local environments. It is therefore also important to capture the local residents' view in this regard. Local residents were asked to give their opinion (agree/disagree) on statements about tourism impacts on local social and cultural environments (refer to Appendix 14). The factor analysis method was applied to capture the common response of local people.

The study found that in all cases local residents tend to have a positive response to tourism's role in cultural conservation, promotion of arts and craft production, while recognizing that tourism also causes traffic congestion, water pollution and degrades traditional lifestyles. In the case of Doson, people showed a more positive response to positive social and cultural impacts of tourism. This may be partially attributed to the earlier stage of development compared to the two other cases of Patong and Batu Ferringhi. Similarly, local residents in all cases positively perceived tourism's role in improving the quality of life and feel it should be developed further in the area. The means of factors were not significantly different between different groups by age and gender in all cases (Appendix 14), but were by job categories in the Patong and Batu Ferringhi cases. These indicate a low level of host-guest irritation in the cases, though most cases were well-established destinations at the consolidation stage of development, which is hypothesized to have a high level of host-guest irritation (Doxey, 1976; Butler, 1980)

9.4 Tourism Planning and Staff Training

Table 9.8 Planning, Staff Training

Indicators	BF	PT	DS	Summary of Cases
1. Planning integration				Less sustainable
2. Local involvement				Less sustainable
3. Institutional arrangement				Indeterminate
4. Training staff				Less sustainable
5. Environmental awareness training				Less sustainable

Tourism as a multidimensional industry needs to be integrated into local strategic planning for overall development. The term "integrated planning" indicates the multifaceted concerns of tourism planning. Integrated planning will help avoid the conflicts between different resource users and minimize environmental negative impacts, and promote environmental and community welfare. These in turn lead to improvement of tourism product quality and enhancement of visitor satisfaction. For these purposes, tourism planning should be carried out in a framework of local strategic planning with effective partnership among stakeholders, local involvement and public participation. Furthermore, human resource development is a vital component and central to the success of any development process. The evaluation of tourism planning and policies of human resource development was based on a review of government reports and interviews with government officials and management.

In *ad hoc* cases there was careful planning of individual projects, while the lack of a master plan prior to resort development was a common situation. In the case of Batu Ferringhi, though the Tourism Action Plan was set up in 1994, no local plan has been implemented to date. As a result, uncontrolled development has caused many environmental problems as discussed in the above sections. The same situation was observed in the cases of Patong and Doson. The survey also found that public participation was hardly applicable in all *ad hoc* cases. Some development projects had consulted with local organizations, but in very limited way or mainly on administrative issues. The provincial/state tourism development plans, which were recently launched in all cases, were not well publicized for public participation. Though business representatives did not mention that they were not given an opportunity to participate in tourism planning, except for the case of Patong (refer to

Appendix 14), the positive response was commonly found only in the large properties. Most people in small scale businesses showed their indifference and lack of a voice in the planning process. In other words, they expressed their lack of influence and authority in any formal planning agenda. Unclear institutional mechanisms and legislative issues became a concern related to public participation in the tourism planning process.

Regarding staff training, the common problems were lack of formal training, career development and support for staff training in all *ad hoc* cases. Hence, there was a high proportion of unskilled staff in all *ad hoc* cases, which was more than 35 percent compared to less than 5 percent in the integrated case. Less than 25 percent of hotel staff in all cases has gone through environmental awareness training ("green training") programs, which was largely absent in restaurants, shops and the informal sector. This suggests there is a need for more investment in staff training, if tourism businesses in these destinations are to be more sustainable.

9.5 Marketing and Research

Table 9.9 Marketing and Research

Indicators	BF	PT	DS	Summary of Cases
Responsible marketing:				Indeterminate
1. Promotional literature				Indeterminate
2. Accuracy of destination literature				Indeterminate
Research activities:				Indeterminate
3. Impact research: - EIA				Less sustainable
- On-going research				Less sustainable
4. Market research				Indeterminate
5. Information accessibility				Indeterminate

For long-term business survival and profitability, sustainable tourism development requires responsible marketing and on-going research activity. Responsible marketing embodies respect for local culture and the needs of visitors, that not only provides visitors with the necessary information but also enhances their appreciation, experiences and satisfaction when visiting a destination. The marketing strategy for sustainable tourism therefore emphasizes sufficient and honest information about a destination and its products and services and the provision of visitor education and promotion which respects local cultural values and traditions.

The study indicates that though business representatives showed their neutral response to responsible and efficient marketing, the experts' opinion of the sites suggested that marketing and research were a problem of sustainable tourism in all *ad hoc* cases. Marketing and research basically rely on the provincial/state effort which lacks detailed information about the destination and its products and services. In the case of Batu Ferringhi, the complaint was highlighted about the inaccuracy of information about beach quality, which may cause visitor disappointment when they arrive. In terms of research and information accessibility, there was good access to tourism databases at provincial/state level in all cases, except for the case of Doson. Environmental impact assessment (EIA) was required for tourism development projects in the case of Batu Ferringhi and Patong. Unfortunately much development was carried out before the enforcement of this regulation, while there was a lack of on-going impact research and environmental auditing and monitoring, which have become threats to sustainable tourism in all cases. Likewise, lack of in-depth destination market research has raised concerns about sustainable tourism businesses in these destinations.

The situation was worse in the Doson case. Marketing was almost absent due to lack of financial and human resources as well as cooperation among the resort's components. Lack of environmental impact assessment prior to development as well as lack of environmental monitoring has contributed to environmental degradation. Lack of market research and a poor tourism database have caused difficulties in business and decision making, and undermined sustainable tourism in the resort.

9.6 Summary

An overview across the cases proves that *ad hoc* development does not result in sustainable tourism. The case analysis is summarized in Table 9.10. The study shows that a sustainable pattern of resource use appears more unlikely in *ad hoc* cases, due to lack of a master plan prior to development. The common failures in all *ad hoc* cases were associated with sustainable resource use and environmentally sustainable practices. None of these cases had desirable practice of physical development. Physical development density was high and uncontrolled. As shown in Table 9.10, all the cases were faced with environmental problems of loss of ecological biodiversity, degraded natural habitats, soil and beach erosion, and coastal water pollution. One of major causes was attributed to poor environmentally sustainable management. None of the *ad hoc* cases have practiced desirably environmental management measures. Most infrastructures in *ad hoc* resorts were found to have over-capacity and high development density. The resultant environmental degradation is inevitable. Mass tourism accompanying resort urbanization creates a need to control development

growth in all *ad hoc* cases, if it is to be more sustainable, though it may be too costly or too late for amendment.

Other problems of *ad hoc* development were exposed to tourism planning and training, and marketing and research activities. Lack of planning integration, limited public involvement in development, lack of environmental awareness training and on-going research were among major concerns that undermine sustainability of the tourism businesses. These also clearly show the failure of tourism development in these cases in meeting social goals.

The evaluation of economic impacts of tourism reveals strong evidence that tourism development in all cases have contributed significantly to the local economy. Information in Table 9.10 indicates that, except for the occupancy rate which is more likely to be affected by over-supply of the accommodation, the achievement of most economic indicators suggests some degree of economic sustainability across the cases. Likewise, local residents in all cases expressed their positive perception towards tourism development impacts on the socio-cultural environment, which shows the achievement of desirable tourism practices in this regard.

The analysis of major tourism development practices in selected beach resorts in Southeast Asia shows that despite the increasing understanding about the value of sustainable tourism, many tourism development practices continue in an unsustainable manner. Though businesses were aware of sustainable tourism principles, the practices were very limited in daily business life. On the one hand, this is due to lack of proper interpretation or translation of sustainable tourism principles into the

tourism planning and management practice from policy to operational level. On the other hand, the practice was not enforced and supported by an effective organizational mechanism within the resort, where the failure of local government control was recognized. In other words, sustainable tourism practices should be and need to be supported by a business culture of the resort as a whole. The case of Laguna Phuket integrated beach resort provides prominent evidence.

As resorts become more mature, the problem of over-development and its resultant environmental negative impacts emerge as major threats to sustainable development. As a consequence, water pollution, disturbance of natural habitats and environmental degradation were common problems in *ad hoc* cases, but not in the integrated case. The major reasons lie in the lack of an integrated plan for overall resort development, low regulation enforcement and poor support infrastructure for environmental management practices. The improvement seems to be beyond the control of the individual property, but rather requiring a collective effort and partnership among components as well as the necessary intervention of higher government.

It is clear that Laguna Phuket integrated beach resort appears more socially, environmentally and economically sustainable, owing to partnership and cooperation among the resort's components as well as consistent commitment to sustainable tourism practices. In contrast, in the cases of *ad hoc* resorts, lack of proper planning and development control and insufficient marketing and research effort have undermined sustainable tourism. While these resorts appeared to be economically and socially sustainable, they were affected by environmental problems of over-construction, water pollution and environmental degradation.

Table 9.10 Evaluation of Sustainable Tourism in *Ad hoc* Resorts

Practices	Constructs/Indicators	Sustainability		
		BF	PT	DS
a. Sustainable resource use and environmental management				
Physical development	1. Accommodation density			
	2. Site coverage			
	3. Beach capacity			
	4. Environmentally sensitive design			
	5. Load factor			
	6. Accessibility			
Diversity	1. Road green cover			
	2. Public green space			
	3. Change in fauna, flora			
Salient environmental impacts	1. Soil and beach erosion prevention			
	2. Ecoli (water pollution index)			
Environmental management measures	1. Solid waste management			
	2. Waste water treatment			
	3. Water saving practices			
	4. Energy saving practices			
	5. Recycling practices			
b. Economic benefits and opportunities				
Local residents	1. Job opportunities			
	2. Income improvement			
Business	1. Tourism arrivals			
	2. Occupancy rate			
	3. Tourist expenditure			
	4. Profitability			
Local economy	1. Tourism revenue			
	2. Local ownership			
	3. Economic diversity			
	4. Range of local sale items			
c. Socio-cultural impacts				
	1. Cultural preservation			
	2. Promotion of art and craft production			
	3. Crime incidence			
	4. Environmental pollution and congestion			
	5. Improving overall quality of life			
d. Tourism planning and staff training				
Integrated planning	1. Planning integration			
	2. Public participation			
	3. Institutional arrangement			
Human resource development	1. Staff training			
	2. Environmental awareness training			
e. Marketing and research				
Responsible marketing	1. Promotional literature			
	2. Accuracy of destination literature			
Impact research	1. EIA			
	2. On-going research			
Market research	3. Destination market research			
	4. Information accessibility			

Source: Author, 1999

Key: Less sustainable More sustainable

CHAPTER X

DISCUSSION AND CONCLUSION

This chapter presents a summary and discussion of the research findings, considering their theoretical and practical implications. It also offers precautions to be kept in mind when interpreting the results of the study, as well as identifying future important research issues.

The discussion in this chapter seeks to address directly the stated objectives for this study. As recorded in the Chapter I, the objectives are:

1. To gain an understanding of tourism dynamics and sustainable tourism practices in the Southeast Asia region
2. To identify the major factors related to the theory and practices of sustainable tourism
3. To evaluate major current tourism development practices in terms of its sustainability.
4. To work towards the establishment of an operational model of sustainable tourism which may be adopted for evaluation and monitoring sustainable tourism in different contexts of development.
5. To provide evidence about and suggestions for improving planning and management for sustainable tourism development.

These objectives have defined the study's direction and intent. These concluding discussions consider the analysis of the research within the framework of the objectives.

10.1 Discussion of the Research Findings

As a response to the growing demand for coastal tourism in Southeast Asia, rapid and unplanned tourism development is evident in many destinations. Though the development process is different from place to place, most development has been driven by the private sector on an *ad hoc* basis. Master plans or integrated plans are either in the process of development or still absent. The competitive advantages belong to large-scale firms in the studied resorts, while the small-scale enterprises play a significant role in providing tourism products and services. The spread of low-budget hotel properties and food outlets within and outside the resort boundary is common to meet the demand of the major market segment of mass tourism.

There is no argument that the implementation of sustainable tourism principles, which incorporate the economic, socio-cultural and environmental dimensions of tourism development, bring long-term benefits not only for the tourism business sector, but also for the local economy and residents. The study of Laguna Phuket integrated beach resort shows strong evidence that sustainable tourism is a practical, not a utopian, model. An integrated planning and central management approach does help to solve the problems of uncontrolled development. This is attributed to the establishment of networking and enhancement of business partnerships within the resort and with local communities. The growth of tourism can be achieved without compromising social and natural environmental goals. Partnership among resort operators and the local community is a key factor to the success of sustainable tourism practices. It helps to save investment costs, creates synergy of development and

enhances the competitiveness of each individual operator as well as the resort as a whole.

The study of *ad hoc* beach resorts in Southeast Asia provides evidence of the careful planning and development of many individual properties. However, in the absence of integrated plans, development over time has resulted in a lack of coordination which has become a threat to the sustainability of the resorts as a whole. This is supported by several previous studies which have found that the lack of planning for integrated development of resorts in Southeast Asia has caused haphazard development and increasing environmental deterioration (Pearce, 1997; Smith, 1992). The evaluation of sustainable tourism in selected beach resorts indicates tourism development provides economic benefits to tourism businesses as well as to the local economy by job creation, income generation and revenue contribution. The economic leakage is low in most cases due to a high proportion of locally-owned enterprises and low dependence on foreign investment. However, social and environmental integrity is still in question. Long-term strategies for sustainable tourism have been missing with respect to local partnerships, human resource development, marketing and research. The status of sustainable tourism in the selected beach resorts is presented in Table 10.1.

Table 10.1 Evaluation of Sustainable Tourism in the Selected Resorts

Practices	Constructs/Indicators	Achievement			
		LP	BF	PT	DS
a. Sustainable resource use and environmental management					
Physical development	1. Accommodation density				
	2. Site coverage				
	3. Beach capacity				
	4. Environmentally sensitive design				
	5. Load factor				
	6. Accessibility				
Diversity	1. Green cover				
	2. Public green space				
	3. Change in fauna, flora				
Salient environmental impacts	1. Soil and beach erosion prevention				
	2. Ecoli (water pollution index)				
Environmental management measures	1. Solid waste managed				
	2. Waste water treatment				
	3. Water saving practices				
	4. Energy saving practices				
	5. Recycling practices				
b. Economic benefits and opportunities					
Local residents	1. Job opportunities				
	2. Income improvement				
Business	1. Tourism arrivals				
	2. Occupancy rate				
	3. Tourist expenditure				
	4. Profitability				
Local economy	1. Tourism revenue				
	2. Local ownership				
	3. Economic diversity				
	4. Range of local sale items				
c. Socio-cultural impacts					
	1. Cultural preservation				
	2. Promotion of art and craft production				
	3. Crime incidence				
	4. Environmental pollution and congestion				
	5. Improving overall quality of life				
d. Tourism planning and staff training					
Local involvement	1. Planning integration				
	2. Public participation				
	3. Institutional arrangement				
Human resource development	1. Staff training				
	2. Environmental awareness training				
e. Marketing and research					
Responsible marketing	1. Promotional literature				
	2. Accuracy of destination literature				
Research: Impact research	1. EIA				
	2. On-going research				
Market research	1. Destination market research				
	2. Information accessibility				

Source: Author, 1999

LP: Laguna Phuket; BF: Batu Ferringhi; PT: Patong; DS: Doson

Key: Less sustainable More sustainable

The results of this research support the hypothesis that *ad hoc* tourism development does not result in sustainable tourism. While economic sustainability appears to be more achievable in most of the cases, ecological and social sustainability is still wanting. More problems are exposed in resource use and environmental management as well as local involvement in development with regard to the *ad hoc* approach. The competitiveness and synergy of development in the resorts as a whole have been weakened due to lack of proper tourism planning and partnerships among stakeholders. The development form of the *ad hoc* cases precipitates movement out of a traditional pattern to fast growth and leads to stronger linkages with the local economy, but also results in a loss of local control. Figure 10.1 presents this movement and depicts the problems associated with the *ad hoc* development approach.

Figure 10.1 Mapping the Status of Sustainable Tourism in the Selected Beach Resorts

Source: Author (1999)

It is observed that at the initial stage of low development density, the social and environmental impacts on the local natural and built environment are less apparent. When the destination is well established and more mature, multi-dimensional impacts become clearly exposed, which has prompted greater concern about sustainable tourism practices. However, the driving forces of sustainable tourism practices seem to be of limited interest. The extrinsic value of sustainability has not been well recognized. Though the business sector is aware of sustainable tourism principles, it finds it hard to accommodate these into the tourism business planning and development process. Many tourism operators neither care about investment in sustainable tourism development nor operationalize sustainable tourism principles in their daily businesses. Lack of joint effort among resort components has appeared as a main obstacle to sustainable tourism practices. As a result, the natural resources within the resort boundary have been exploited by individual property owners. Responsibility for preserving the natural environment is rarely acknowledged. This is attributed to poor infrastructure, weak enforcement of regulations and lack of government incentive policies on environmental conservation. The remedy costs in *ad hoc* resort development seems to be beyond the financial capacity of individual properties, which suggests that cooperation among them is the only solution for current environmental problems.

While integrated planning for tourism development is critical at national and regional levels, policy empowerment, technical assistance and partnership between the private and state sectors are essential for manipulation and implementation of an overall development plan at the site level. Unfortunately, integrated planning with local involvement and public participation is still impractical, although it is recognized by

industry representatives as being important for sustainable tourism development. The causes lie in the jurisdictional and organizational gaps among government levels, businesses and local communities and the unequal distribution of power. It is found in the three cases of *ad hoc* beach resorts that the master plan often lagged behind the establishment of the resort. An integrated development plan as a remedy is therefore ineffective when it is proposed too late. Though some individual properties are moving toward sustainable development as proposed goals over a certain period of time, this may not always make any significant contribution to sustainable development of the resort as a whole, and the evaluation of tourism development in *ad hoc* beach resorts suggests this to be the case.

In the case of Batu Ferringhi resort, a high commitment to the implementation of sustainable resource use and environmental management in some hotels helps to improve the quality of their product and services, such as at the Golden Sand resort, Rasa Sayang resort and Bay View Hotel. However, their businesses have suffered from the environmental deterioration of the resort. The overall resort environment is being threatened due to uncontrolled development and lack of environmental protection. The local tourism action plan has recently been drafted, but is not yet effective in introducing improvements.

Similarly, in the cases of Patong and Doson beach resorts, there is no tourism action plan for sustainable development to date. The common situation of uncontrolled development appears as a major cause of environmental problems. Businesses are well aware of sustainable tourism imperatives, but not much effort has been made in response, especially by small firms which have limited financial resources. As a

consequence, the problems have been accelerating in those resorts with a high proportion of small firms. Though these small firms have strong linkages with the local economy, little attention has been given to working together for the betterment of the environment.

The study suggests that though different destinations have experienced a different pace of tourism development and impacts on local communities, more problems appear in response to negative environmental impacts. When examining sustainable tourism development, many researchers have focused on the types of development, including the limited growth approach, integrated and comprehensive forms. Most of these approaches are designed to control development, and incorporate more political, institutional and policy-related issues, while tourism products (services) are viewed as tourist experiences at a specific destination produced by multiple tourism industry segments and individuals. Networking is therefore vital for the tourism industry if it is to be more sustainable. In this context, the market mechanism is no longer an effective tool in management, but rather institutional and government intervention are required. The role of tourism

evolution. He claims that political power has shifted along with the evolution of resorts in a way that involves non-government control at the initial stage of development to local government and then intervention of a higher government level. There is thus a need for stronger regulation enforcement in resource allocation and management when a destination reaches maturity.

Despite a long debate about sustainability theory, the issues of equity and ethics as a major goal of sustainable development are rarely discussed in sustainability research. These issues remain vague especially to policy makers, planners and business people. The notion of fairness is relevant regarding resource use and management for inter- and intra-generation equity. However, in most cases, the resource pool and level of utilization have not been studied sufficiently. At a business level, particularly equity seems to be ignored or examined only superficially for marketing purposes. While most tourism development in destination has been driven by the private sector, many of the natural resources such as beaches, natural ambiance, cultural values etc. have been taken as “common property”. This provides more evidence of market failure in the management of tourism resources, which discourages sustainable resource management by individual operators. The APEC Tourism Working Group (1996), with a profound interest in these problems, suggested some economic instruments to encourage environmentally sustainable tourism practices. However, not many of these methods have been effectively implemented to date. The study suggests that future research on sustainable tourism should concentrate on economic and institutional aspects of resource management in the tourism industry. This will not only contribute to the development of sustainable tourism theory, but also accommodate its implementation.

The evaluation of tourism development at selected destinations in terms of its sustainability shows that the benefits from tourism development are unequally distributed among the sectors and individuals. The costs of tourism development such as congestion, environmental pollution and increase in costs of living are more commonly distributed. This is consistent with studies by Madrigal (1994) and Taylor (1995), who argue that costs of tourism development are most likely to be shared, while unequal financial benefit is inevitable. The findings also illustrate that both industry and local residents benefit from tourism's role in improving their quality of life, though the negative impacts on local environments are clear. This implies a high tolerance or low irritation level of people to tourism development in all study cases. An important implication that can be drawn for sustainable tourism planning and development is that physical and economic carrying capacities may be reached before social carrying capacity, although it is clear that these carrying capacities are interdependent (Hunter, 1995).

Another important concern in the evaluation of sustainable tourism is the issue of scale, which is absent in many definitions of sustainable development. Some academics argue that it is not sufficient to evaluate sustainable tourism at a specific destination. As far as tourism is concerned, the impacts of tourism development can be fully assessed only at the global level (Marsh, 1993; Butler, 1998). In contrast, the tendency to study the political and economic focus at a macro level and the peripheral roles of local actors at a micro level in the development process will lead to an undermining of the basic conditions of sustainability. Sustainability has true meaning only if it is evaluated in specific social and political conditions (Wiesmann, 1994;

Belk and Costa, 1995). It is also not unreasonable to argue that the boundary of sustainable evaluation should not be institutional or administrative, but rather an ecological boundary (Wight, 1998). This is driven by a concern about the environmental impacts of development. However, viewing sustainable tourism as a sustainable product, a site unit which contains “*a critical mass of development*” either as an administrative, marketing or geographical area, can be defined for evaluation (Gunn, 1994). Sustainability can be evaluated at different levels – international or global, national, corporate and operational. The current study found that though sustainable tourism principles are well recognized at a policy level, there is no guarantee of implementation at an operational level. The proposed framework for evaluating sustainable tourism in this study is therefore an attempt to operationalize the concept of sustainable tourism at a site level, a procedure which is still absent in the tenets of sustainable tourism.

The findings illustrate that an effective evaluation of sustainable tourism is very site-specific. The selected set of indicators for evaluation is useful for planning and monitoring tourism development at a destination, but must be flexible in its application. Sustainable tourism is not a static and well-defined concept. The evaluation, based on a set of indicators, aims to map out the dynamic status of tourism development at a destination in pursuit of a more sustainable form of development, rather than to measure how much closer tourism development is to sustainable tourism standards. Moreover, the standards, if any can be defined, are very localized, otherwise, they cannot be realistic and applicable. Therefore, future research effort should not concentrate on identifying the standards of sustainable tourism, but rather explore the constraints and conditions associated with the theoretical sustainable

tourism model to make it more achievable in reality; this is neither satisfactorily discussed in theory nor resolved in practice.

In connection with the product life cycle, marketing research is necessary to identify the market niches and demand, which are capable of being supported by the carrying capacity of a destination. This is vital for the achievement of sustainable tourism development. Unfortunately, the study found that marketing and research are inadequately dealt with in specific destinations as well as at the firm level, especially amongst small-scale firms which become more marginal in a competitive business environment. The major reason for this situation is lack of finance and human resources, as well as research cooperation. When these become problems of small scale tourism businesses, the question is whether any kind of marketing cooperation can be formed among these operators, and if so, then how? The case of Laguna Phuket may give a good example of how this kind of cooperation can be established within a resort, where differentiation of products and services to satisfy different marketing niches is a major tool. However, it seems to be difficult in the context of small-scale tourism business in *ad hoc* development. This leads to a recognition of the need for a higher level of government intervention to support marketing and research activities, which are not simply promoting and selling but rather form a long-term survival strategy for tourism businesses at a destination.

10.2. Implications of the Research Findings

- Theoretical Implications:

Sustainable development theory emphasizes multidimensional considerations of integrity, productivity, equity and diversity. The concept of sustainable tourism and

principles associated with its social, cultural, economic and environmental goals have been extensively discussed (Eber, 1992, McIntyre, 1993; APEC, 1996). However, the literature has provided few specific and applicable models of sustainable tourism development. The question of how relevant the tenets of sustainable development are in the tourism industry therefore remains unanswered. The findings of this research suggest that sustainable tourism is well understood by practitioners in the tourism industry. It is not just a western value or cultural concept as argued in previous studies. It is an imperative for tourism business viability. Tourism industry representatives evaluate their sustainable tourism practices as satisfactory. However, the evaluation of tourism development shows that the practice is far behind expectations of desirable practices. There is a low commitment to the implementation of sustainable tourism principles in daily business. The principles may be seen as impractical because of their generality. They are more like policy statements than business imperatives. These findings are supported by Berry and Ladkin (1997) in their case study of East Sussex, United Kingdom. A general model cannot be relevant to all levels of tourism development and evaluation. It is therefore necessary for researchers in sustainable tourism development to produce a set of simple but practical principles for each different level of development, which elaborates business goals in a linkage with social and environmental goals and their flexible evaluation indicators.

Given the complexity of the sustainability concept and its long-term perspective, it is commonly accepted that an evaluation of sustainable tourism based on comprehensive indicators and longitudinal studies is preferable. However, the study indicates that this suggestion is unrealistic. Comprehensive indicators are impossible due to the

complicated phenomenon of sustainable tourism, limitations of research resources and data availability. Indicators can neither measure everything nor be truly comprehensive, but rather they should together point to the major dimensions of sustainable tourism. Moreover, the interrelation and interaction among economic, social, economic and environmental aspects can allow the selected indicators to be representative. Hence the study sheds light on the process of identifying indicators of sustainable tourism development at different levels.

The study further suggests that researchers must develop a dynamic and analytical approach in order to evaluate sustainable tourism. At the destination level, the evaluation method must emphasize the interactions and transformation process of tourism and its impacts on the local environment. The indicators help to detect quantitatively and qualitatively the problems as well as the solutions. At a higher level, the implementation and evaluation of sustainable tourism should be carried out from the broader perspective of sustainable development in general which tourism is an integral part of. The social, economic and environmental goals of sustainable development at a macro level determine the indicators and criteria of sustainable tourism.

Evaluation of sustainable tourism emphasizes meeting the goals of present development while ensuring the needs of future development. The current theoretical view of sustainable tourism looks towards the “problem-avoiding” approach to sustainable development (Smith and Eadington, 1992; Gunn, 1994; Murphy, 1994). However, the findings suggest that it is equally important to tackle the problems of past development if the tourism industry is to be more sustainable in the future. Many

of the chronic problems in the selected *ad hoc* development destinations are due to planning and development in the past, including inadequate infrastructure, lack of cooperation and the absence of local involvement. The “*problem-solving*” approach therefore should not be ignored in the sustainable tourism planning and monitoring process.

Much research of theory of sustainable tourism has focused on finding appropriate forms of sustainable tourism, which are usually described as ecologically sound and small-scale or “alternative tourism”. These forms of tourism are distinguished from mass tourism and thought to have fewer negative impacts, socially and culturally, and be acceptable to locals (Bilsen, 1987; Wight, 1993). This study suggests that contemporary tourism hardly develops in a single form at a specific destination, but rather it is “bust and boom” with conventional forms as foci. Small-scale tourism development may not be acceptable in the context of the Third World, where economic growth is imperative for employment and poverty alleviation. Therefore, the effort to promote alternative forms such as ecotourism, responsible tourism etc. rather than mass tourism for sustainable purposes may be idealistic and fail in reality. What will make a more significant contribution to sustainable tourism development than a search for alternatives is future research aimed at finding efficient mechanisms for integrated development and management for more sustainable mass tourism.

In the context of theory-building and the theory-testing process, many researchers have suggested that the comparative method assists us to go beyond description and move towards explanation and generalization (Warwick and Osherson, 1973; Hayne and Harrop, 1982; Pearce, 1993). This study used a comparative approach for

explanation and generalization of the evaluation model of sustainable tourism. Based on operationalization of the sustainability concept, the case studies method was used as part of a comparative process to analyze and interpret the tourism development process and its impacts at the sites. Factor analysis was used to generalize the factors of sustainable tourism practices, and perceptions of and attitudes towards tourism development. This assists the quantitative analysis and accommodates “element by element” comparison to explain the common and divergent outcomes in tourism development in terms of its sustainability. The methods applied in this study demonstrate the utility and application of analytical techniques which have not been fully recognized in sustainable tourism research.

- *Practical Implications:*

The findings of this study suggest that sustainable tourism is a practical and not utopian model only if there exist community commitment, acceptance of responsibilities and cooperation among the stakeholders and communities involved in development. Clearly, a comparison of integrated planned and *ad hoc* resorts points out that *ad hoc* approaches leads to the problems. It is far better for governments and resort developers to plan beach resorts using the integrated approach. In this way, the consequent problems that were identified in this study with the *ad hoc* resorts may be avoided. However, it is also noted that it seems too late for *ad hoc* resorts to lean solely on this approach to secure sustainable tourism development. Rather, they should devote more effort to “problem solving” the difficulties resulting from the former development. However, these remedy costs may be too high for individual firms, especially small-scale businesses.

The results also indicate that environmentally sound business practices could increase investment costs and therefore become one of the major constraints on sustainable practices. They do, however, help to reduce operational costs and improve environmental quality in the long term. Larger firms are likely to be more aware of environmental and social impacts of the business on the local environment and therefore more prone to implementation of environmentally sound management. Similarly, the larger firms have a better capacity than small-scale operators to invest in resource conservation and environmental management practices which lead to operational costs savings. This is consistent with Porter's conclusion that "the conflict between environmental protection and economic competitiveness is a false dichotomy" (Porter, 1991) and has several implications for the management of sustainable tourism at operational, corporate and regional levels. For more sustainable tourism business, cooperation among small-scale firms will be the best means to enhance their ability to implement environmental conservation practices. Cooperation among individual properties as well as government authorities and related agencies will be an appropriate strategy for tourism firms to adopt in order to overcome financial constraints and enhance their competitiveness.

The evidence from this study provides insights into how sustainable tourism can be implemented and operationalized in daily business life, not just accepted as an ideal or unworkable model. The practices of environmental protection and improvement require a trade-off with economic profits in the short-term, but contribute to long-term business profitability. In the context of tourism development at the destination level, endeavours made by individual operators to achieve sustainable tourism may not be

efficient, for it requires a collective effort and networking. Partnership based on community commitment and responsibilities is vital for the success of sustainable tourism. Furthermore, accepting community planning as a new planning paradigm to enhance local participation in tourism, the issues of scale must be addressed by tourism administrators to reduce the power distances between interest groups. Government tourism agencies must take a leading role.

For the practitioners, a major constraint on the implementation of sustainable tourism lies in the vague nature of the concept and its generality. An evaluation framework with selected indicators is therefore necessary to make it more applicable. It can be used as an important tool in planning and monitoring sustainable tourism. The data and information provided by regular evaluation and monitoring at the destination level will enhance understanding of the dynamics of tourism development and its impacts, through which the practitioners will be able to be more proactive in their decision making and planning. In addition, the data and information collected on the cases is of great value for the tourism industry and governments for management and research of sustainable tourism development.

10.3 Discussion on Evaluation Framework of Sustainable Tourism

The concept of sustainability and criteria for identifying and testing indicators of sustainable tourism have been discussed thoroughly. As complicated as the definition of sustainability is, indicators of sustainable tourism embody the economic, social, cultural and environmental goals of sustainable development. A number of academic works have discussed the criteria for selecting indicators of sustainable tourism which should be sensitive to spatial and temporal variation, practical, interpretable and

amenable to management (Nelson, 1993; Kreutzwiser, 1993; Payne, 1993; Smith, 1995; WTO, 1996; Wight, 1998). Sustainable indicators should have managerial relevance, be predictive about changes and flexible in use for different conditions. The indicators are more useful if they are applicable subject to availability of data, time and resources for evaluation. These discussions set the context for the development of the evaluation model in this study. Types of indicators and their functions are presented in Table 10.2.

Three groups of indicators are categorized, namely baseline, diagnostic and reference. The baseline indicators are proposed to suggest the status of tourism development at the destination, management of tourism businesses as well as the direction of changes that can be made for further improvement. They include the indicators of physical development, environmental management practices, business performance, human resource development and marketing. The diagnostic indicators help to monitor the impacts of tourism development and alert the user to imminent problems, for which corrective actions need to be taken. The reference group shows social and cultural impacts of tourism, especially local attitudes towards tourism development. These indicators implicitly and explicitly reflect the interrelationship and interaction between the local community and tourism. These are driven not only by tourism development itself but also by cultural sensitivity, social norms and values. However, the typology discussed above is not designed to draw an absolute line of demarcation among the groups. Rather, it provides a theoretical base for identifying and applying sustainable tourism indicators. Some indicators may appear in one category, but be involved in assessment of another category such as environmental management measures.

Table 10.2 Evaluation Model of Sustainable Tourism

Practices	Indicators	Analysis	Type of indicators
a. Sustainable resource use and environmental management: Physical development	1. Accommodation density (room/ha) 2. Site coverage (% of built area) 3. Environmentally sensitive design 4. Beach capacity (m of coast/person) 5. Load factor 6. Accessibility	Site stress	Baseline
Diversity	1. Road green cover (trees/km of road) 2. Public green space (m ² /bed) 3. Change in fauna, flora	Impacts	Diagnostic
Salient environmental impacts	1. Soil and beach erosion prevention 2. Ecoli (water pollution index)		
Environmental management measures	1. Water saving practices 2. Energy saving practices 3. Solid waste management (%) 4. Waste water treatment (%) 5. Recycling practices	Management	Baseline/ Diagnostic
b. Economic benefits and access: Local residents	1. Job opportunities (local vs. foreign) 2. Income generation	Impacts	Diagnostic
Business	1. Tourist arrivals (% growth) 2. Occupancy rate 3. Tourist expenditures (% growth) 4. Profitability	Management	Baseline
Local economy	1. Tourism revenue (% growth) 2. Local ownership (%) 3. Economic diversity (% employment) 4. Range of local sale items (%)	Impacts	Baseline/ Diagnostic
c. Socio-cultural impacts	1. Cultural preservation 2. Promotion of arts and craft production 3. Crime incidence 4. Congestion 5. Improving overall quality of life	Impacts	Reference
d. Tourism planning and staff training: Integrated planning	1. Tourism planning integration 2. Public participation 3. Institutional arrangement	Management	Baseline/ Reference
Human resource development	1. Staff training 3. Environmental awareness training	Management	Baseline
e. Marketing and research: Responsible marketing	1. Promotional literature 2. Accuracy of destination literature	Management	Baseline/ Reference
Impact research	3. EIA 4. On-going research		
Market research	5. Destination market research 6. Information accessibility		

Source: Author, 1999

Like any model, the evaluation model presented in Table 10.2 has its own strengths and weaknesses as well as limitations with regard to general applicability. Based on the concept of sustainability, the model presents a further development of sustainable

tourism theory by operationalizing sustainable tourism principles and their evaluation indicators. Though the set of selected indicators is not comprehensive, it does address the major dimensions of sustainable tourism and is conceptually valid. The indicators reflect not only the current status of tourism development and its impacts on a local environment, but also mirror trends in environmental changes which tourism is subject to and responsible for. This anchors the model in sustainable tourism planning and management and suggests its usefulness and relevance.

Given the availability of time-series data and information about tourism development and its impacts, the model incorporates only key indicators which are practical and applicable for sustainable tourism planning and management at the site destination level. The combination of baseline, diagnostic and reference indicators as presented in Table 10.2 provides both absolute and relative measures of conditions, from which some threshold values can be derived for evaluation. These make the model more interpretable and predictable so that meaningful management responses can be constructed.

However, the model has some weaknesses. First, as mentioned above, the model is tested based on a field survey of coastal tourism in Southeast Asia, and there may be variations in the applicability, use and function of indicators. This may lead to some modification being required when the model is used to evaluate the sustainability of another type of tourism such as cultural tourism. Second, some indicators of social and cultural impacts lean on qualitative measures and are subject to individual perception of and attitude towards tourism development. Nevertheless, given the very nature of these indicators, subjectivity of response may be inevitable, although a

larger sample size may help to minimize this problem. Third, the model clearly involves the collection of a wide range of data and information that demands experience and communication skills amongst researchers when working with people in different disciplines and local communities.

10.4 Limitations of the Research Findings

Literature on sustainable tourism has shown a profound interest in the development of the sustainability concept and its implications for tourism management, but tend to be very descriptive in nature. As an immature research domain in tourism, previous studies focused on planning aspects at the national or regional scales, while little research has been done on how a sustainable tourism model can be interpreted and implemented at a destination level. Questions of evaluation and monitoring of sustainable tourism planning are largely ignored. This study helps to enrich the theory of sustainable development by expanding and operationalizing sustainable tourism theory. However, the findings and applications of the proposed model in this study have several limitations which are now discussed.

Firstly, the data and information in this study are based on a field survey. One weakness may relate to the possibility of informants giving desirable responses. Respondents may try to give a positive response in light of what they think is expected. However, the researcher made clear statements in the questionnaires as well as in face-to-face conversations about the purposes of the study and confidentiality of responses which should help to ensure construct validity. Likewise, in a cross-cultural study, the conceptual and measurement equivalence must be dealt with. As discussed

by Mullen (1995: 575) "...measurement equivalence addresses the question of whether the same models hold across different populations". However, these may not be significant problems in this study because of several reasons. First, a two-way translation method was used to minimize the problem of calibration and translation equivalence. Second, this study only aims to examine common practices, their outcomes and factors that influence sustainable tourism practices in studied sites, rather than using the magnitude of scores for cross-comparison. Third, the similarities of salient development conditions among selected sites and the current movements of national tourism administrations on sustainable tourism help to reduce the gap in perceptions of concepts and principles. The comparisons across countries or destinations for each of the factors or independent variables in this kind of research can thus be considered to have consistent reliability.

Some may raise the limitations of conclusions drawn from perception. However, it also has to be acknowledged that the social dimension of tourism development implicitly embodies residents' and others' perceptions. The accuracy of perception with respect to reality is one concern. But people's perception of tourism development is a fundamental component of sustainability and needs to be measured. For example, carrying capacity is perceptually based and has no basis in quantification. Also, perception of quantifiable matters such as environmental pollution is important and not necessarily scaled with reality. Thus perceptions become important factor for analysis.

Secondly, to be sustainable, there must be a market for sustainable tourism products. Given the recent uncertainties in the international market in Asia due to the regional

economic crisis, one can question the sustainability of tourism and how to assess these market conditions when sustainability is concerned. The argument can be made on built-in flexibility to respond to the changing markets. However, the assessment of future global and regional markets is beyond the scope of this study, although the information about tourism arrivals, occupancy rate, and length of stay can be used as indirect indicators of market response.

Third, it may not be possible to apply the proposed evaluation model in this study to all kinds of tourism and all regions, since the data and information are limited to the Southeast Asia region beach resorts. We cannot be sure that the findings on coastal sustainable tourism practices and its impacts are consistent with those in other types of tourism such as that based on heritage or rural sites. Similarly, the components of an integrated planning and development approach vary from place to place depending on the economic, social, cultural and political contexts. The evaluation indicators reflect the goals of development, which are also different from time to time and or different locations. Therefore, the need for flexibility and variation in the application of a proposed evaluation framework as well as its criteria should be recognized and attempts have been made to devise such a model in this study.

Finally, most of the sustainable/desirable practices used in the case analyses were adopted from Baud-Bovy and Lawson (1998), which were drawn on their extensive international experiences in tourism and recreation development not only in Europe (The United Kingdom, France, Turkey, Switzerland, Germany, Austria, etc.) and America (The United States, Canada), but also in Asia (Thailand, Sri Lanka, Indonesia, Japan, Taiwan, Korea, Australia, New Zealand, etc.) and Africa (South

Africa, Niger). However, given that non-international standards are applied for sustainable tourism practice, there may be a limitation of using these sustainable/desirable practices to the Southeast Asia context.

10.5 Further Research Needs

The discussion of the study's findings reveals several key areas which require further studies:

1. Networking and cooperation among stakeholders are key issues to improve the implementation of sustainable tourism. However, how to build up commitment and cooperation among stakeholders and interest groups, and to reduce the power distances in tourism decision making are questions still to be answered. The research on organization behaviors and culture, government institutional arrangements and individual attitudes with respect to sustainable tourism is needed.
2. With growing interest in local involvement in sustainable development, the term community participation has become common in the sustainability lexicon. Many academics have advocated debate on definition of community and increased participation, examining the impacts of new technology and globalization (Murphy, 1985, Zeldin, 1994; Jamal and Getz, 1995). The study reveals the need to better understand the roles of the local community and the process of community network formation, which contribute to the achievement of sustainable tourism development. Future research on how these networks are formed and how they represent the community interest, commitment and shared-values is needed to improve implementation of sustainable development principles.

3. Theoretically, financing and economic instruments are viewed as effective tools to enhance environmentally sustainable tourism practices. The study learned that many failures in sustainable tourism practices at selected destinations are attributed to weak institutional practices such as those covering property rights and liability which are suggested to work more efficiently in conditions of market failure in resource management. Future research effort therefore should be directed towards understanding the relationship between sustainable tourism practice and economic conditions and constraints as well as incentives which are rarely discussed.
4. The findings indicate that human resource development has emerged as a key issue in sustainable tourism development, but few efforts have been made in response. Budgeting for training and education is not seen as a major constraint. Rather the problem lies in the absence of an integrated approach to education and training in the industry. There appears a need to determine appropriate and effective education and training in the tourism industry.
5. For the development of sustainable tourism theory, replication and an extension of this research can be carried out in two directions. The evaluation framework for sustainable tourism at a destination level needs to be tested in different geographical regions and for different types of tourism. The selection of indicators requires more empirical work to test and revise their relevance and applicability of indicators. Such further studies can help to generalize and improve the operational model of sustainable tourism. Second, the research model can be applied in the planning and evaluation of sustainable tourism forming part of a strategic plan. The

evaluation framework with selected indicators may serve as a blueprint for the planning and evaluation component of a successful sustainable tourism plan.

10.6 Overall Conclusion

Different from any previous studies on the sustainability of tourism development, which have focused on either a debate of the theoretical evolution or evaluation of different aspects of sustainability, this study has taken a step to operationalize sustainable tourism principles and develop an evaluation model of sustainable tourism. While discussion of the convergence of the multidimensional and dynamic phenomenon of sustainable tourism is found in the tourism literature, previous studies were directed towards economic or biological considerations. Questions of social equity and local involvement receive little attention from researchers and academics. Previous studies investigated mainly industry-level data, in the absence of data at the firm level, as well as information about local residents' responses. This study therefore makes a primary contribution to the understanding of sustainable tourism for the following reasons.

Firstly, the findings in this study provide a better insight into tourism development in terms of its sustainability and factors influencing sustainable practices, which were not the concern of previous studies.

Secondly, the evaluation framework proposed and tested in this study represents a significant contribution to the development of a sustainable tourism strategy. It also helps to make the sustainable tourism model more practical and applicable. As

proclaimed by many academics and practitioners, the sustainable tourism model is often perceived as an ideal and unworkable model which needs to be tested and operationalized (Eber, 1992; Hunter, 1995; Butler, 1998).

Third, the selected set of indicators for evaluation in this study provides a holistic compilation of sustainable indicators at the site level and a guide to their application. This will benefit similar research on sustainability at destinations, as well as higher levels.

Finally, there is an argument about scale issues when working towards a theoretical evaluation framework for sustainable tourism. Though many previous studies have been conducted of sustainable tourism development, none of these studies examined how sustainable tourism can be manipulated and evaluated at the site level. This study investigated data at the firm level and the industry level, as well as local residents' opinions, to provide a comprehensive evaluation, which is useful not only for the management of tourism businesses, but also at higher levels. Methodologically, this study explores how factor analysis and case study methods can be applied in sustainable tourism evaluation research, although these two methods may appear mutually exclusive.

This study suggests that *ad hoc* development in the short-term can bring economic benefits to tourism businesses and the local economy. It, however, has many negative and even detrimental effects on the natural environment, and therefore cannot result in sustainable tourism. Some critical research issues are raised to call for more research on sustainable tourism and conditions for its achievement. The results of such work

will be a valuable contribution to the body of knowledge about tourism and the theory of sustainability.

This research has explained some of the dynamics of tourism and sustainable tourism practices in Southeast Asia within the context of the significant theory. The study has evaluated major beach resort developments in terms of their sustainability so as to operationalize a model of sustainable tourism. Recommendations for improving planning and management for sustainable tourism have been made.

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Appendix 1 Sustainable Tourism Model

Principles	Practices
1. Using resources sustainably: <i>The conservation and sustainable use of resources - natural, social and cultural is crucial and makes long-term business sense</i>	<p><i>a. Sustainable resources use:</i></p> <ul style="list-style-type: none"> - Physical development: Intensive physical development will cause negative natural environmental impacts - Environmentally sensitive designs - Seasonal effect: Peaking's inefficiency of resource use - Level of resources use: Misuse will deplete natural, social, cultural resources - Accommodation density - Respect to the needs and rights of local people <p><i>b. Resource conservation :</i></p> <p>Maintain and sustain capacity for future development</p> <ul style="list-style-type: none"> - Carrying capacity - Naturalness - Environmental conservation and protection <p><i>c. Law and regulations on conservation and uses:</i> Institutional support and enforcement to development</p> <ul style="list-style-type: none"> - Law and regulation - Economic incentives: Market signals to encourage sustainable practices
2. Reducing over-consumption and waste: <i>Reducing over-consumption and waste avoids the cost of restoring long-term environment damage and contribute to the quality of tourism</i>	<p><i>a. Reduce inappropriate consumption of customers</i></p> <ul style="list-style-type: none"> - Cost effectiveness and conservation consciousness <p><i>b. Waste management and recycling activities:</i></p> <p>Cost effectiveness and environmental improvement</p> <p><i>c. Use local resources in sustainable manner</i></p> <p><i>d. Take responsibility for restoring damage:</i> Incentives to enhance resources liability, minimize pollution behaviors</p> <p><i>e. Proper planning and constant monitoring</i></p>
3. Maintaining diversity: <i>Maintaining and promoting natural, social and cultural diversity is essential for long-term sustainable tourism and creates a resilient base for the industry</i>	<p><i>a. Respect to natural, sociocultural diversity:</i></p> <p>Enhancing of environmental quality and meeting the goals of equity and ethics for long- run development</p> <p><i>b. Foster genuine cultural tourism</i></p> <p><i>c. Prevent tourism 'monoculture':</i> Suitable uses of tourism resources and reduce dependency</p> <p><i>d. Discourage tourism which disrupts local culture</i></p>
4. Integrating tourism into planning: <i>tourism needs to be integrated into national and local strategic planning framework</i>	<p><i>a. Integrate all economic, social, cultural aspects of the local area into planning (local and regional)</i></p> <p><i>b. Minimize environmental, social cultural impacts by carrying out comprehensive environment assessment and consultation with local people and relevant authorities</i></p>
5. Supporting local economy: <i>tourism which supports wide range of local economic activities and takes environmental costs and values into account</i>	<p><i>a. Tourism diversification:</i> Effectiveness of resource uses and enrichment of tourism products</p> <p><i>b. Support local small business:</i></p> <ul style="list-style-type: none"> - Increase linkages within local economy - Reduce economic dependency - Reduce leakage <p><i>c. Commitment to equity:</i> Contribution to local economy</p>
6. Involving local communities: <i>Full involvement of local</i>	<p><i>a. Public participation in tourism planning</i></p> <ul style="list-style-type: none"> - Public inputs in tourism planning - Social, economic equity to local community

<i>communities in tourism benefits them and the environment in general, but also improves quality the quality of the tourism experiences</i>	<i>b. Respects to needs and aspiration of locals</i> Create harmony in tourism development - Employment and income - Residents' perception on tourism <i>c. Support local enterprises and promote the active local partnership in tourism development</i>
7. Consulting stakeholders and the public: <i>Consultation between the the tourism industry and local communities, organizations and institutions is essential to sustainable tourism</i>	<i>a. Inform local residents about tourism development and its benefits</i> - Involve public participation <i>b. Consult local governments and non-government organizations (NGOs) and local residents:</i> - Involve public participation, commitment and contribution - Resolve potential conflicts of interests <i>c. Support the proper mechanisms for local consultation</i>
8. Training staff: <i>Integrated training and recruitment of local personnel improve the quality of tourism product</i>	<i>a. Integrated training program</i> - Human resources development to improve quality of tourism products <i>b. Enhance the status of local staff at all levels</i>
9. Marketing tourism responsibly: <i>Marketing with full and responsible information increases touristic awareness and satisfaction</i>	<i>a. Marketing of 'green tourism'</i> Enhance visitors' awareness on destination and its culture value and traditions; building tourism image; and avoid host -guest conflicts - Marketing practices - Ethical marketing <i>b. Visitor education</i>
10. Undertaking research: <i>On-going research and monitoring help solve problems, bring benefits to all stakeholders</i>	<i>a. Encourage research in assessment and monitoring techniques:</i> Providing information and feedback for planning and management <i>b. Make research and studies available to local and national authorities</i>

Source: Adopted from Eber (1992)

Appendix 2 Maps of The Study Sites
(Not to Scale)

Doson - Haiphong - Vietnam

Phuket - Thailand

Penang - Malaysia

Appendix 3 Hotel Accommodations, Hotel Guests Arrivals, Occupancy Rates in Phuket, 1987-1997

Year	No. of Hotels	Hotel Rooms	Guest arrivals	Occupancy rate	Length of stay
1987	150	6,551	546,949	59.1	3.71
1988	161	7,988	726,123	61.4	3.77
1989	203	12,259	810,014	63.08	5.17
1990	207	13,160	1,064,263	63.38	4.87
1991	223	14,912	1,021,140	57.59	4.16
1992	261	17,355	1,436,287	39.63	4.38
1993	264	17,426	1,769,217	59.85	5.16
1994	264	17,426	1,836,335	53.86	3.75
1995	235	18,529	2,031,730	61.95	4.06
1996	277	18,590	2,005,485	55.16	3.58
1997	293	18,959	2,113,419	54.09	3.27

Source: TAT Phuket Office, 1998.

Appendix 4 Water Quality in Phuket (E.coli, MPN/100ml)

Place/station	1996	1997	1998*
Laguna Phuket: - Station 1	79	35	70
- Station 2	2	2	2
Patong: - Station 1	79	40	280
- Station 2	49	2	2
- Station 3	27	20	49

Source: Marine Biological Research Center of Phuket, April 1998.

* Data was recorded on February 16 1998.

Appendix 5 Tourism Revenue and Tourist Expenditure in Phuket, 1988-1997

Year	Tourism revenue (million baht)	Average expenditure (Baht/person/day)	
		Foreigner	Total average
1988	3,549.01	1,851.77	1,296.36
1989	6,705.89	1,732.22	1,332.91
1990	8,574.27	1,556.82	1,366.57
1991	10,699.99	2,741.58	2,075.06
1992	33,891.17	3,127.57	2,295.11
1993	41,036.97	3,268.56	2,655.18
1994	28,989.65	3,276.33	2,884.55
1995	31,000.24	3,311.15	2,877.64
1996	28,442.42	3,150.87	2,814.12
1997	31,025.65	3,489.97	3,070.49

Source: TAT Phuket office, 1998.

Appendix 6 Hotel Performance in Phuket, Thailand, 1987-1997

Appendix 7 Occupancy Rate and Tourism Revenue in Batu Ferringhi, 1987-1997

Appendix 8 Hotel Occupancy Rate and Tourism Revenue in Doson,
1990-1997

Appendix 9 Demography of Study Sites in Phuket

Indictors	Total	Phuket town		Kathu		Thalang	
		Household	%	Household	%	Household	%
1. Number of Households	35,415	18,987	100	5,975	100	10,453	100
2. Population (persons)*	211,817	132,286	-	22,810	-	56,721	-
3. Income class (Baht)**:							
<6000	713	244	1.3	175	2.9	294	2.8
6000-9999	2,418	796	4.2	949	15.9	673	6.4
10,000-19,999	4,256	1,887	9.9	1,001	16.8	1,368	13.1
20,000-29,999	6,071	2,872	15.3	915	15.3	2,284	21.9
30,000-49,999	7,674	3,683	19.4	1,031	17.3	2,960	28.3
50,000 and over	8,735	5,446	28.7	1,469	24.6	1,820	17.4
Unknown	5,548	4,059	21.2	435	7.2	1,054	10.1

Source: Phuket Statistical Office, 1998

* In 1996

** 1995 Village Survey, National Statistical Office

Appendix 10 Crime Incidences in Phuket Province

Year	Violent crime			Offenses against life safety of person, morality			Offenses against property			Outstanding cases		
	1	2	3	1	2	3	1	2	3	1	2	3
1991	73	48	68	156	120	176	344	286	387	117	99	123
1992	55	30	58	188	159	239	496	394	610	206	125	194
1993	66	35	-	242	201	-	484	308	-	272	133	-
1994	59	35	65	242	186	255	533	367	490	221	106	130
1995	59	31	54	258	202	267	562	337	448	284	126	149
1996	61	35	74	313	243	330	630	358	490	339	126	151

Source: Phuket Provincial Police Bureau, 1997.

1 - Cases known; 2 - Cases with arrest; 3 - Personal charged

Appendix 11 Gross Domestic Product of Penang, Malaysia

(RM million at 1978 prices)

Economic Sectors	1970	1980	1990	2000
1. Agriculture	264	223	189	209
2. Mining and Quarrying	2	18	26	22
3. Manufacturing	172	1,399	2,668	4,997
4. Construction	78	143	170	254
5. Utilities	42	68	116	229
6. Transportation	101	313	648	1,387
7. WRHR	361	565	731	1,531
8. FIREBS	131	269	540	1,115
9. Government Services	58	322	563	843
10. Other Services	142	93	143	270
Total	1,351	3,413	5,795	10,857

Source: Penang Strategic Development Plan

Note: WRHR Wholesale, Retail, Hotels and Restaurants

FIREBS Finance, Insurance, Real Estate and Business Services

Appendix 12 GDP per Capita by Industry in Doson, Vietnam 1994-1997

(VND million/person, current prices)

Activities	Labors employed (%)	1994	1995	1996	1997
1. Agro-forestry	9	1.7	1.8	1.9	2.0
2. Fishing	11	1.8	2.0	2.1	2.0
3. Aquaculture	22	1.8	1.9	2.1	2.2
4. Salt making	13	1.45	1.5	1.6	1.65
5. Tourism	18	2	2.1	2.2	2.4
6. Others	25	-	-	-	-
Average	-	1.77	1.89	2.0	2.07

Source: Doson Statistics Department, 1998

Appendix 13

Survey Questionnaires

Dear Sir/Madam

I am Bui Thi Tam, Ph.D. candidate in Nanyang Business School, Nanyang Technological University, Singapore. I am grateful that you are willing to take some time to participate in this research on Sustainable Tourism. Our goal is to better understand the sustainable tourism practices in your country. In the attached survey form, you will be asked a variety of questions about things regarding sustainable tourism practices, which your firm might or might not do, and its impact on tourism development as a whole. There are no right or wrong answers here, we are just interested in capturing your opinion on sustainable tourism practices and its socioeconomic and environmental impacts.

When you return your survey, it will be processed at the Nanyang Technological University. When the study is done we may provide your firm with a feedback report that describes general patterns and information about this issue. Please be assured that we will keep your individual answers strictly confidential and they will not be shared under any circumstances.

When filling out the survey, please answer all questions honestly. Some questions will be repetitive in various ways for statistical purposes. Just answer with the first response that comes to your mind and ignore the repetition.

If you have any questions or you are not clear about the meaning of any words used in the survey, please ask the survey administrator for clarification.

Thank you for your time and your collaboration.

Section A (Tourism managers, administrators, hoteliers, tour operators, etc.)

We would like to ask about *your perceptions on sustainable tourism practices in your organization*. Please indicate *the extent* to which you agree or disagree with the following statements by **circling** the number next to each statement that corresponds with your response.

	1	2	3	4	5	6	7	
	Strongly disagree	Disagree	Somewhat disagree	Neutral	Somewhat agree	Agree	Strongly agree	
A-I Resource uses and environmental management: We have satisfactorily implemented (or contributed to)								
1	energy saving methods	1	2	3	4	5	6	7
2	water saving methods	1	2	3	4	5	6	7
3	waste reduction and management	1	2	3	4	5	6	7
4	protection of fauna	1	2	3	4	5	6	7
5	protection of flora	1	2	3	4	5	6	7
6	reduction of water pollution	1	2	3	4	5	6	7
7	prevention of soil erosion	1	2	3	4	5	6	7
8	recycling practices	1	2	3	4	5	6	7
9	reuse of materials	1	2	3	4	5	6	7
10	preservation of traditional festival, social values and cultural diversity	1	2	3	4	5	6	7
11	We recognize clearly that conservation of environment is very important to our tourism business both short term and long term	1	2	3	4	5	6	7
12	We are not concerned much about cultural conservation in our business	1	2	3	4	5	6	7
13	Our business does not cause problems of water pollution	1	2	3	4	5	6	7
14	Our business does not cause problems of soil erosion	1	2	3	4	5	6	7
15	Tourism in this area does not negatively affect cultural traditions and values	1	2	3	4	5	6	7
16	Water pollution is not our problem	1	2	3	4	5	6	7
17	Soil erosion is not our problem	1	2	3	4	5	6	7
18	Government have clear regulations/guidelines on environmental protection	1	2	3	4	5	6	7
19	Effectiveness of government regulations on environmental protection is low	1	2	3	4	5	6	7
20	Loss of fauna and flora will negatively affect our business	1	2	3	4	5	6	7
21	We practice environmental protection for long-term business	1	2	3	4	5	6	7
22	Practice of water and energy saving methods will save our operational cost	1	2	3	4	5	6	7
23	We must practice environmental conservation methods because of high fine on violation	1	2	3	4	5	6	7
24	Poor infrastructure (sewerage, drainage, etc.) causes environmental problems	1	2	3	4	5	6	7
25	Lack of technical guidance affects our environmental protection practices	1	2	3	4	5	6	7
26	Cost of investment into environmental protection limits our practices	1	2	3	4	5	6	7
27	Practice of environmental sound tourism is only for marketing purposes	1	2	3	4	5	6	7
28	Cost concern limits our practices on environmental protection	1	2	3	4	5	6	7
29	Lack of incentive policies discourages environmental protection practices	1	2	3	4	5	6	7
A-II Economic benefits and access								
1	Tourism promotes local tourism-related enterprises	1	2	3	4	5	6	7
2	Tourism promotes others local economic sectors (agriculture, food processing, services, etc.)	1	2	3	4	5	6	7
3	Many jobs besides those in hotels and restaurants are created by tourism	1	2	3	4	5	6	7
4	Majority of local staff are doing low paid jobs	1	2	3	4	5	6	7
5	Significant portion of local people gets income from tourism related jobs	1	2	3	4	5	6	7
6	Wide range of foods and beverages is imported from outside this area	1	2	3	4	5	6	7
7	Tax from tourism is significantly ploughed back to improve infrastructure and environmental protection	1	2	3	4	5	6	7
8	We have achieved our objective of profit for the last five years	1	2	3	4	5	6	7
9	We are optimistic about our business in at least next five years	1	2	3	4	5	6	7

A-III Social cultural impacts: Tourism in this area increases							
1	awareness of our cultural traditions and values	1	2	3	4	5	6 7
2	local arts and craft production	1	2	3	4	5	6 7
3	historical and cultural conservation	1	2	3	4	5	6 7
4	crime incidence	1	2	3	4	5	6 7
5	congestion	1	2	3	4	5	6 7
6	degrading local cultural value and tradition	1	2	3	4	5	6 7
7	appearance or image of this area	1	2	3	4	5	6 7
8	overall quality of life	1	2	3	4	5	6 7
9	tourism should be developed further in this area	1	2	3	4	5	6 7
A-IV Tourism policy and planning							
1	We have considered related guidelines from local development plan	1	2	3	4	5	6 7
2	It is necessary to have guidelines from local development plan	1	2	3	4	5	6 7
3	Our planning is not concerned with province/state tourism plans	1	2	3	4	5	6 7
4	We don't know much about province/state tourism plans	1	2	3	4	5	6 7
5	The consultation of locals is necessary in tourism planning	1	2	3	4	5	6 7
6	We have consulted/involved the several related agencies in our planning	1	2	3	4	5	6 7
7	We have involved in province/state tourism planning	1	2	3	4	5	6 7
8	Public participation is not efficient and significant in tourism development	1	2	3	4	5	6 7
9	Public participation is not applicable because of lacking formality/guidelines	1	2	3	4	5	6 7
10	Local people do not know much about tourism development	1	2	3	4	5	6 7
11	We have no voice in provincial/state development planning	1	2	3	4	5	6 7
12	We are not given opportunities to contribute to state/provincial tourism planning	1	2	3	4	5	6 7
13	Province/state tourism development plans are not publicized	1	2	3	4	5	6 7
14	We did not seek for local opinions because they don't know much about tourism	1	2	3	4	5	6 7
15	Public participation is only token, not effective	1	2	3	4	5	6 7
16	It does not make any difference whether we consult local communities or not	1	2	3	4	5	6 7
17	Lack of formal agenda makes consulting with stakeholders not applicable	1	2	3	4	5	6 7
18	Training opportunities are available to our staff	1	2	3	4	5	6 7
19	We have satisfactorily budgeted for staff training annually	1	2	3	4	5	6 7
20	Different forms of staff training are provided for upgrading our staff	1	2	3	4	5	6 7
21	Financial difficulties limits our training activities	1	2	3	4	5	6 7
22	Training staff needs the support from government	1	2	3	4	5	6 7
23	We do not have a integrated training plan for staff (different types and forms)	1	2	3	4	5	6 7
24	Integrated training plan for staff is out of our capacity	1	2	3	4	5	6 7
25	Not all kinds of job in our firm need training	1	2	3	4	5	6 7
A-V Marketing and research							
1	We implement satisfactorily environmental impact assessment (EIA) as required	1	2	3	4	5	6 7
2	Our marketing effort is good enough to promote our business	1	2	3	4	5	6 7
3	Marketing expenses are satisfactorily provided	1	2	3	4	5	6 7
4	Our effort is to promote ourselves as good as we are	1	2	3	4	5	6 7
5	Information about destination is provided sufficiently to visitors	1	2	3	4	5	6 7
6	We have programs on the visitor education (providing pre-visiting information, brochure about local customs, cultural value and traditions, etc.)	1	2	3	4	5	6 7
7	We usually have research collaboration with other agencies	1	2	3	4	5	6 7
8	We always recognize that genuine information is important in our marketing strategy.	1	2	3	4	5	6 7
9	We have satisfactorily budgeted for research and marketing efforts	1	2	3	4	5	6 7
10	Our research and marketing efforts are sufficient for enhancing competition	1	2	3	4	5	6 7
11	We should over-promote ourselves to compete with others	1	2	3	4	5	6 7
12	Too little research has been provided to our business during the last 5 years	1	2	3	4	5	6 7
13	We have a lack of professional staff for research and marketing promotion	1	2	3	4	5	6 7
14	More expenses are needed for marketing efforts	1	2	3	4	5	6 7
15	Lack of coordination in research and marketing weakens our research and marketing efforts	1	2	3	4	5	6 7

Section B Please describe yourself

1. Current Job Designation : _____
2. Job category (please tick one): Hotel _____; Restaurant _____; Travel agency _____;
Tour operator _____; Tourism Developer _____; Others (please specify) _____
3. Total years of full-time experience (including other organizations) _____ Years
4. Total years of full-time experience in tourism or tourism-related jobs (including other organizations)
_____ Years
5. Gender (please tick one): 1. Male _____; 2. Female _____
6. Age (Please circle one of followings): (1) Under 25; (2) 25-30; (3) 31-35; (4) 36-40; (5) Above 40
7. Nationality (please tick one)
1 Chinese _____ 2. Malay _____ 3. Thai _____ 4. Vietnamese _____ 5. Others (please specify) _____
8. Highest Educational Qualification (please tick one)
1. Secondary School Education _____ 4. Masters Education _____
2. Diploma Education _____ 5. Ph.D./JD/MD _____
3. Bachelor Education _____ 6. Others (please specify) _____
9. Educational Background (please tick one)
1 Social Sciences _____ 2 Engineering _____ 3 Pure Sciences _____
4 Business/Accountancy/Economics _____ 5 Others (please specify) _____

Section C (Local residents)

In this survey, we would like to ask about *your perception and evaluation on tourism impacts in your communities*. Please indicate *the extent* to which you agree or disagree with the following statements by **circling** the number next to each statement that corresponds with your response.

		1	2	3	4	5	6	7
		Strongly disagree	Disagree	Somewhat disagree	Neutral	Somewhat agree	Agree	Strongly agree
						Strongly Disagree	Neutral	Strongly Agree
Tourism in this area increases								
1	income to local people	1	2	3	4	5	6	7
2	job opportunities to local people	1	2	3	4	5	6	7
3	our awareness on our cultural tradition and value	1	2	3	4	5	6	7
4	historical and cultural conservation	1	2	3	4	5	6	7
5	water pollution	1	2	3	4	5	6	7
6	soil erosion	1	2	3	4	5	6	7
7	benign natural ambiance	1	2	3	4	5	6	7
8	air and noise pollution	1	2	3	4	5	6	7
9	traffic congestion	1	2	3	4	5	6	7
10	increase retail business	1	2	3	4	5	6	7
11	cost of living	1	2	3	4	5	6	7
12	development of other sectors such as agriculture, food processing, etc.	1	2	3	4	5	6	7
13	crime incidences	1	2	3	4	5	6	7
14	the appearance of this area	1	2	3	4	5	6	7
15	overall quality of life	1	2	3	4	5	6	7
16	arts and craft production	1	2	3	4	5	6	7
17	road improvement	1	2	3	4	5	6	7
18	tax revenue to local government	1	2	3	4	5	6	7
19	degradation of local culture and traditions	1	2	3	4	5	6	7
20	Tourism should be developed further in this area	1	2	3	4	5	6	7

Section D Please describe yourself:

1. Current Job : _____
2. Gender (please tick one): 1. Male _____ ; 2. Female _____
3. Age (Please circle one of followings): (1) Under 25; (2) 25-30; (3) 31-35; (4) 36-40; (5) Above 40
4. Nationality (please tick one)
1 Chinese _____ 2. Malay _____ 3. Thai _____ 4. Vietnamese _____ 5. Others (please specify) _____
5. Highest Educational Qualification (please tick one)
1. Secondary School Education _____	4. Masters Education _____
2. Diploma Education _____	5. Ph.D./JD/MD _____
3. Bachelor Education _____	6. Others (please specify) _____

Appendix 14

SUSTAINABLE TOURISM PRACTICES IN SOUTHEAST ASIA - A SUMMARY OF FACTOR ANALYSIS

For the purpose of understanding how the sustainable tourism principles have been perceived and translated into daily business practices, this part aims to review the sustainable tourism practices as well as their impacts on social, economic and physical environments in selected resort destinations in Southeast Asia. It also will identify factors influencing the sustainable tourism practices in the contexts of different planning and management strategies. The information was collected from a questionnaire survey with tourism operators, administrators and local residents. Factor analysis and analysis of variance were applied to capture the people's perception and evaluation of each principle and impacts.

1. Sustainable Tourism Practices

1.1 Sustainable Resource Use and Environmental Management

The purpose of this section is to present the perceptions and self-evaluations of tourism industry people (including hoteliers, tour operators, developers, restaurant operators, tourism administrators) on practices of sustainable resource use and environmental management. It includes 29 statements and statement 11, 18, 20 and 21 were recoded.

- *Self-evaluation*: Ten statements were specified to understand self-evaluation of tourism industry people of their resource use and environmental management practices. These statements were supposed to act as brainstorming for respondents before they answered the detailed statements on sustainable tourism practices. There

are three factors loaded for all four study sites. The total variance explained by these factors are 72.1, 75.6, 72.8 and 67.6 percent for Laguna Phuket, Batu Ferringhi, Patong and Doson respectively.

- *Sustainable resource use*: Five statements in the survey (including practices of energy saving methods, water saving methods, waste reduction and management, protection of fauna and protection of flora) highly loaded in this factor for all cases. The high means of factor values of more than 5 across the cases (1 - strongly disagree and 7 – strongly agree) indicates that business representatives positively evaluate their behavior in resource use ($p < 0.01$). This is not contradictory with the author's expectation. However, from this information no further conclusion can be drawn on sustainable use of their resources, but rather it demonstrates the existence of a stimulus for people to understand and be concerned with sustainable tourism practices, as mentioned before.
- *Reduce pollution and soil erosion*: Two statements loaded in this factor including reduction of water pollution and prevention of soil erosion. It is interesting to find that while the statement of preservation of a traditional festival, social value and cultural diversity formed a separate factor in the cases of Patong and Doson resort, it highly loaded in this factor for the cases of Laguna Phuket and Batu Ferringhi resort. This may suggest respondents associated cultural preservation with prevention of "cultural pollution". The means of factor values range from 5.04 to 5.99 indicating satisfaction with their practices.
- *Reuse and recycle practices*: Two statements about practices of recycling and reuse of materials formed this factor in the case of Laguna Phuket and Batu Ferringhi, but not in the two other cases. The mean of the factor is 5.67 in the case of Laguna Phuket

indicating a positive evaluation of their practices, while the mean value of 4.48 in the Batu Ferringhi case shows neutral opinion in this regard.

• **Awareness:** This part is to capture the awareness of business and industry people about environmental management for sustainable tourism development. Three factors were formed and total percentages of variance explained are 69.43, 72.91, 73.84 and 50.76 in the cases of Laguna Phuket, Patong, Batu Ferringhi and Doson, respectively. The factor solutions are summarized as follows.

- *Strategic environmental management:* Five statements loaded in this factor for all cases with the mean of factor values ranging from 1.72 to 3.12 (to the negative statements). Highly significant differences among sites were found ($p < 0.01$). This indicates the awareness of the need for environmental management and conservation in their business and development strategies.

- *Environmental impacts of tourism business:* Two statements (statement 13 and 14) on impacts of tourism business on the local natural environment loaded in this factor in the cases of Batu Ferringhi and Patong, with means of 4.57 and 4.62 (non-significant at 0.05 level). This suggests that the respondents in these cases may implicitly admit the tourism impacts on the local natural environment. The statement that “tourism in this area does not negatively affect cultural traditions and value” (statement 15) also loaded in this factor for the cases of Laguna Phuket and Doson. This may show a common perception on environmental impacts of tourism including the cultural environment.

- *Cultural conservation:* While two statements (statement 12 and 15) loaded in this factor in the case of Batu Ferringhi and Patong, only statement 12 loaded in this factor in the case of Laguna Phuket, but not in the case of Doson. The means of factor

values in all cases are less than 4 indicating that the business representatives are concerned about cultural conservation in tourism business.

• ***Factors influencing sustainable tourism practices:*** To understand what factors may affect sustainable tourism practices from industry people's standpoints, ten statements were stated in this section. The factor analysis results show three factors were formed. Percentages of the total variances explained were 65.89, 80.07, 74.07 and 66.03 in the cases of Laguna Phuket, Patong, Batu Ferringhi and Doson, respectively.

- *Infrastructure for environmental protection and conservation:* This factor includes four statements associated with poor infrastructure, lack of technical guidance and high investment costs, which impact on sustainable tourism practices. However, it is interesting to find that the mean of factor values is low in the case of Laguna Phuket showing a disagreement with these statements, while three other cases show quite positive responses with a mean from 5.59-5.61 and significant differences among the four cases ($p < 0.01$). This is understandable. Except for Laguna Phuket, where a central system for environmental protection and management was well established, poor infrastructure for environmental management in the three other cases has limited sustainable tourism practices.

- *Cost saving:* Two statements (statement 22 and 23) loaded in this factor with high weightings from 0.712 to 0.941. Review of this factor tells that indeed, the perception on cost savings from energy saving and the fear of high fines do have an effect on environmental conservation practices. However, there is a non-significant difference in means of this factor among the cases. The reliability test shows the inconsistent responses in the case of Laguna Phuket and Doson.

- *Regulation and policy*: Two statements loaded in this factor. These were associated with low efficiency of government policy and lack of incentives on environmental protection practices. The means of the factor are 3.86 for the case of Laguna Phuket and 4.73 for the Batu Ferringhi case, which indicates that the government policy was not less effective on environmental protection practices in these cases. However, it is 5.85 in the case of Doson, indicating a need for incentive policies on environmental protection in Doson (highly significant difference at 0.01 level among three cases). In the Patong case, the statement about government regulation and guidelines (statement 18) also loaded in this factor and there was a mean score for the factor of 4.99.

1.2 Economic Benefits and Opportunities

There were 9 statements (section A-II, Appendix 13) designed to capture the perception of industry representatives about economic impacts of tourism. The result then was used as supplementary information for case evaluation on sustainable tourism practices. Three factors were formed across the cases and total variances explained were 58.78, 72.79, 74.56 and 57.73% for the cases of Laguna Phuket, Patong, Batu Ferringhi and Doson, respectively. Factor solutions are summarized as follows (statement 4 and 6 were re-coded).

- *Job opportunities to local people*: Three statements (statement 1, 2 and 3) loaded in this factor associated with role of tourism in promoting local tourism-related enterprises, and other local economic sectors as well as creating jobs outside hotels and restaurants. The means of factor values are from 5.13 to 6.13 with significant differences among the cases ($p < 0.01$). This shows differently the positive perception about the tourism role in job creation for local people. The statement concerning local staff doing low paid jobs (compared to other economic sectors) did not load in this

factor except for the case of Laguna Phuket, but it forms a separate factor in the case of Batu Ferringhi with the mean of 3.5 indicating the disagreement to this statement.

- *Income and tax revenue*: There is difference in the loadings of variables in this factor. For Laguna Phuket and Batu Ferringhi, three statements loaded including income to local people, tax for local economy and import of food and beverage from outside. In the case of Patong, there are only two statements (statement 5 and statement 6). The result is inconsistent in the case of Doson (statement 5 and statement 7). Low reliability shows the uncertainty in perceptions of respondents about the economic benefits to local people.

- *Profitability for industry*: Two statements loaded for all cases, though the reliability is low (Cronbach's alpha is as low as 0.54 in the case of Batu Ferringhi and highest in the Doson case at 0.72). This may be due to the uncertain nature of evaluation and prediction about profitability to the industry, especially in the present context of economic crisis. However, there is a highly significant difference of means among cases ($p < 0.01$). The business people in the case of Laguna Phuket and Doson resort seem to be more optimistic about their profits in the next five years compared to a neutral opinion in the two other cases.

1.3 Socio-cultural Impacts of Tourism Development

- *Cultural conservation*: This factor includes three statements (statement 1, 2 and 3 in the section A-III) regarding cultural awareness, art and craft production and cultural conservation. High means of factor values (significant difference at 0.05 level), and high reliability are observed for all cases. These indicate the positive evaluation on tourism's role in cultural conservation.

- *Social impacts*: Three variables (statement 4, 5 and 6) loaded in this factor for all the cases, indicating the negative impacts of tourism on the social environment such as crime incidence, congestion and degradation of cultural value and traditions. The means of factor values ranges from neutral (4.32) to somewhat positive (4.79) with non-significant difference among the cases ($p < 0.05$). This shows unclear opinion in this regard, which may be due to the complex nature of social cultural impacts of tourism development.

- *Improving overall quality of life*: Along with the straightforward statement that “tourism increases the overall quality of life”, the statements “tourism increases appearance or image of the area” and “tourism should be developed further in this area” loaded in this factor. This suggests the respondents considered the enhancement of image of the area as aspects of a better quality of life. More positive response was observed in the case of Laguna Phuket, and less in the case of Patong ($p < 0.05$).

1.4 Tourism Planning and Staff Training

This section will discuss the perception as well as practices of integrated planning and staff training for sustainable tourism development. Twenty-five statements were used for this purpose (Section A-IV, Appendix 13). The statements 1, 2, 5, 6, 7, 18, 19 and 20 were re-coded.

1.4.1 Integrated Planning: Theoretically, sustainable tourism planning embeds integrated planning, public participation and local involvement and consultancy in tourism planning, institutional arrangements and guidelines for sustainable tourism planning. While the number of loading factors is different among the cases, the total variances explained by the loading factors are 74.4 percent in the case of Laguna

Phuket, 79.0 percent in the case of Batu Ferringhi, 76.1 percent in the case of Patong and 70.9 percent in the case of Doson. The following four common factors are summarized.

- *Planning integration*: There is some difference in the number of variables loading into this factor among the cases. Among other things, this may be due to differences in political and institutional arrangements in planning, which constitutes the decision-making structures and the linkages among governmental levels. However, the common response is found which shows the awareness of the need for integrating tourism planning into the local development agenda. In the Laguna Phuket case, five statements loaded in this factor (statement 1, 2, 3, 6 and 7) with mean of 2.76 for the negative statements indicating recognition of the importance of integrating their planning into local or regional planning. The other cases are similar, though the number of loading variables is somewhat different.

- *Local consultancy*: This factor includes four variables (statement 5, 10, 14 and 16), except for the case of Doson, which includes seven variables (statement 5, 7, 8, 10, 14, 15 and 16). However, the means of factor values show that, the importance of local consultation is recognized in different degree and varies from place to place with means ranging from 2.91 to 3.82 to the negative statements ($p < 0.01$).

- *Planning participation*: Three statements associated with participation in local tourism planning loaded for all cases. The means of factor values suggest that less opportunity was perceived in the case of Patong, followed by the Doson case than in the other cases ($p < 0.01$). This may be because many respondents in these cases are small hotel or restaurant operators, who usually have less contact with local tourism planning.

- *Institutional arrangement*: Two statements for institutional arrangements loaded in this factor regarding claims that lack of guidelines and formality or a formal agenda have limited public participation in tourism planning. However, except for the case of Laguna Phuket, the three other cases show neutral to positive response to these statements with means ranging from 4.29 to 5.40 ($p < 0.01$). This implies that unclear institutional arrangement is a constraint to public participation in tourism planning. However, it would be superficial to make any further conclusion unless the information on decision-making structures, power relations and knowledge control is further investigated.

Besides, the factor of *efficacy of public participation* was formed only in the case of Laguna Phuket with two loading variables but low reliability (Cronbach's alpha is 0.68). The mean factor value of 2.41 shows the significance and effectiveness of public participation in tourism development.

1.4.2 Human Resource Development

Eight statements (from statement 19 to statement 25, section A-IV, Appendix 13) were used for factor analysis to capture perceptions on training opportunities and constraints. The two following common factors were formed. Total variances explained were 64.4 in the Laguna Phuket case, 73.9 in the cases of Patong and Batu Ferringhi, and 72.1 percent in the case of Doson.

- *Training opportunities*: This factor includes two statements that training opportunities and different training forms are not provided satisfactorily to the staff. The means of factor values show negative responses to these statements. However, in the Doson case, the statements loaded with high means of factor values indicating a lack of training opportunities for the staff ($p < 0.01$).

- *Integrated training plan*: Two statements (statement 23 and 24) loaded in this factor for the cases of Patong and Batu Ferringhi, though the factor appears inconsistent in the case of Patong. The means of factor values are from 3.56 to 4.40 indicating negative responses to the statements, which imply there is an integrated plan for staff training in these cases. For the case of Doson, these statements loaded in a factor of *training opportunities*. These statements did not load in the case of Laguna Phuket.
- *Budgeting for human resource development*: There is variation in loading variables in this factor. However, two statements directly mentioned the financial difficulty as a constraint to training activities and loaded in all cases with the negative response and high reliability, except for the case of Doson. This implies the problems in training activities do not lie in budget as is commonly thought.

1.5 Marketing and Research

Fifteen statements (Section A-V, Appendix 13) were designed to capture the evaluation of industry people on their marketing and research practices, which are prerequisite for sustainable tourism. The four following common factors were loaded across the cases. Though there are some different loading variables, total variances explained were 74.7, 73.8, 72.9 and 70.5 percent in the cases of Laguna Phuket, Patong, Batu Ferringhi and Doson, respectively.

- *Destination Marketing*: Seven statements regarding marketing activities of the resort loaded in this factor in the cases of Patong and Batu Ferringhi, but only 5 statements in the case of Doson. The statements 4 and 5 did not load in the case of Laguna Phuket, and statement 4 did not load in the case of Doson. Statement 11 only loaded in this factor for the case of Laguna Phuket. Nevertheless, the means of factors are ranging from 4 to 4.60 showing the neutral to somewhat positive responses to the

statements, which suggest they are not really satisfied with their marketing effort to date, except for the case of Laguna Phuket.

- *Accuracy of Information*: Two statements (statement 4 and 11) loaded in this factor in the cases of Batu Ferringhi and Doson with means of factor values of 5.24 and 5.83, respectively. This factor includes statement 4, 5 and 8 in the case of Laguna Phuket with mean of factor of 5.29. These indicate an awareness of genuine information of promotion literature in these cases.

- *Research activities*: Three statements loaded in this factor associated with research collaboration, lack of research in the last 5 years (statement 12) and lack of coordination in marketing and research (statement 15). For the case of Patong and Doson, the statement “We lack professional staff for research and marketing promotion” also loaded in this factor. This suggests that the respondents in the cases of Laguna Phuket and Batu Ferringhi did not consider the issue of professional staff for their research and marketing activities as a problem.

- *Budgeting for marketing*: Except for the case of Patong, one statement loaded separately in this factor for the three other cases (statement 14 “More expenses are needed for marketing). However, the reliability test shows a very inconsistent result. This may be due to the sensitive nature and information accessibility of the issue.

1.6 Mean Comparison among the Cases

This section is to test for statistical differences in perception of sustainable tourism principles and their practices among the cases. Due to some variations in variables loading in each factor for specific cases, the comparisons were made only among the cases which had the same loading variables to factors (Table 1).

Table 1 Summary of Mean Value and Mean Comparison among the Cases

Factor	Laguna Phuket		Patong		Batu Ferringhi		Doson		F- test	Sig.
	F	M	F	M	F	M	F	M		
Sustainable use of resources										
1. Resource uses	F1	5.83	F1*	5.97	F1	5.25	F1	5.05	14.46	0.000
2. Reduce pollution	F2	5.99	F3*	5.04	F2	5.50	F2	5.07	13.89	0.000
3. Reuse & recycle	F3	5.67	F2*	5.27	F3	4.46	-	-	12.48	0.000
4. Environmental management	F4	1.72	F4	2.20	F4	3.12	F4	2.37	15.29	0.000
5. Environmental impacts	F5*	4.80	F6	4.62	F5	4.57	F3*	4.67	0.244	0.784 ^{ns}
6. Cultural conservation	F6*	3.47	F5	3.92	F6	3.83	-	-	-	-
7. Infrastructure	F7*	3.57	F7	5.59	F7	5.61	F6	5.59	49.89	0.000
8. Cost saving	F9*	5.86	F9	5.12	F8*	4.85	F8	5.34	3.87	0.230 ^{ns}
9. Regulation & policies	F8	3.86	F8*	4.99	F9	4.73	F7	5.85	36.56	0.000
Economic benefits										
10. Job opportunities to local	F1	5.59	F2	6.14	F1	5.13	F1	5.64	16.20	0.000
11. Income and tax revenue	F3*	5.29	F1	5.21	F2*	4.22	F3	5.19	0.011	0.915
12. Profit for industry	F2	5.39	F3	4.47	F3	4.67	F2	5.38	13.45	0.000
Social cultural impacts										
13. Cultural impacts	F2	5.73	F2	5.15	F1	5.43	F1	5.37	2.92	0.036
14. Social impacts	F1	4.68	F3	4.80	F3	4.59	F2	4.31	1.47	0.224 ^{ns}
15. Quality of life	F3	5.53	F1	4.92	F2	5.14	F3	5.23	3.03	0.031
Tourism planning and policy										
16. Planning integration	F1	2.76	F1	3.26	F1	3.54	F2	3.30	nc	-
17. Local consultancy	F2	2.91	F3	3.78	F3	3.60	F1*	3.82	6.61	0.002
18. Planning participation	F3*	3.25	F2	5.08	F2	3.89	F3	4.45	15.13	0.000
19. Institutional arrangement	F4	3.08	F5	4.29	F4*	4.43	F4	5.40	21.45	0.000
20. Training opportunities	F7	2.47	F10	4.23	F6	3.26	F5*	5.07	21.59	0.000
21. Integrated training plans	F8	2.86	F8	4.40	F8	3.56	-	-	nc	-
22. Budgeting	F6*	3.75	F7	4.58	F7*	4.01	F6	5.28	4.97	0.028
Marketing & research										
23. Marketing	F1	5.35	F1	4.13	F1	4.60	F1	4.00	nc	-
24. Accuracy of information	F4*	5.29	F4*	5.27	F3	5.24	F5	5.38	16.79	0.000
25. Research	F2	3.24	F2	4.64	F2	4.47	F2	5.45	nc	-

Note: * case is excluded

(F) Factor as referred to Appendices 15, 16, 17 and 18.

M Mean of factor value

(nc) non-comparable among the cases

(ns) Non-significant difference at 0.05 level

The data show that there is a statistically significant difference in means of most factors among the cases, which implies different level of people's perception and evaluation on their sustainable tourism practices as well as its impacts on the local environment. However, there is no significant difference among the cases in factors of *cost saving, environmental and social impacts of tourism business* on the local environment, which implies a common perception of these issues across the cases.

1.7 Conclusion

As far as implementation is concerned, the practices of sustainable tourism are far more complicated than has been described and they are not easy to summarize into clear patterns for all cases. However, these analyses capture a broad understanding about sustainable tourism practices as well as evaluation of sustainable tourism to some extent.

Except for some variations in loading factors, most of the suggested variables loaded in the hypothesized factors for most cases with acceptable reliability. The results suggests that business representatives have a clear understanding on impacts of tourism business and the role of environmental conservation for their long-term business viability. Some common factors which influence sustainable tourism practices include regulation and policies, infrastructure, and concern of cost savings. It is interesting to find that the costs of investment (statement 26 and 28, Section A-I, Appendix 13) for environmental practices heavily loaded in the infrastructure factor, not into the cost saving factor. This suggests that businesses clearly perceive investment cost as a constraint in the installment of infrastructure for environmental conservation practices, except for the case of Laguna Phuket where a central system of waste and water treatment was established.

The business people tend to self-evaluate satisfactorily their practices of sustainable resource use and environmental management. Though as the individual business people perceived that their business does not cause problems of soil erosion and water pollution (non-significant difference of means among the cases), they expressed the

care of environmental problems in the resort as a whole as their problems. They also agreed that practice of environmentally sound tourism helps to save their operational costs, which encourages their environmental protection practices.

The respondents also showed neutral to positive responses to statements asking about training opportunities, marketing and research effort in Patong and Batu Ferringhi. Especially in Doson resort, problems were more obviously perceived regarding training, marketing and research activities. However, this is not the case in Laguna Phuket integrated beach resort, where responses showed positive perceptions about training opportunities and satisfactory implementation of marketing and research activities. However, more divergent perception of tourism planning and policy, marketing and research activities are exposed among the cases, which manifest in variable loadings and the means of factors. The explanation may lie in the complexity of the issues themselves, cultural influences and institutional differences as well.

II. Residents' Perception of Tourism Impacts

It is not sufficient to understand the tourism impacts on social cultural, economic and natural environments if the local residents' perceptions and attitudes toward tourism development are not taken into account. For this reason, a questionnaire survey with local residents was carried out. Twenty statements were mentioned in order to capture the residents' perceptions and attitudes toward tourism development and their social cultural, economic and natural environments. The information is useful to provide supplementary evidence for evaluation of sustainable tourism practices in the resort destinations. This reflects the satisfaction and attitudes of local residents, who play an important role in sustainable tourism development.

Factor analysis was applied to define the common factor of tourism impacts, from which further comparison could be made. The factor extraction method and criteria for factor selection are the same as described in the above section. The factor analysis shows six factors were formed. The percentage of total variances explained by these factors are 71.1% in the case of Laguna Phuket, 71.43% for the case of Patong, 65.65% for Batu Ferringhi and 66.42% in the Doson case. The factor solutions are summarized as follows (Statement 7 and 19 were re-coded).

2.1 Social and Cultural Impacts of Tourism Development

Six statements associated with social and cultural impacts of tourism development loaded in this factor (Statement 1, 2, 3, 4, 16 and 19), except for the case of Doson, for which statement 16 did not load in this factor. This may arise from the fact that there is not much art and craft production within the area of the Doson resort. It is also found that statements 1 and 2 (tourism increases income and job opportunities to local people) loaded in this factor. The result suggests that the residents may view the improvement of income and job opportunities thanks to tourism as enhancement of social equity rather than an economic contribution, though it is clear that improvement of job opportunities and income are economic in nature. The means of factor values are 5.54 and 5.39 in Laguna Phuket and Doson, respectively, indicating that people perceived positively the impacts of tourism development on the social and cultural environment, while in the case of Patong and Batu Ferringhi, the perception is slightly moving from neutral to positive.

2.2. Economic Impacts

This factor includes four statements regarding increase of retail business, cost of living, development of other sectors and tax revenue to local government (statements 10, 11, 12 and 18). The means of factor values of more than 5 in all cases reveal the positive response to these statements indicating that tourism causes both positive and negative impacts. It increases the economic benefits to the local economy through stimulating development of other sectors, increases retail business and tax revenue to local government, but also increases the cost of living. However, it is found that the reliability is low in the case of Patong ($\alpha = 0.53$), which shows inconsistency in residents' responses on this issue. Besides, in the case of Laguna Phuket and Patong, the statement that tourism improves the road system loaded in a separate factor. This statement did not load in any factor in the case of Doson and Batu Ferringhi.

2.3 Environmental Impacts

Five statements (statement 5, 6, 8, 9 and 13) loaded in this factor with high reliability in all cases, except for Batu Ferringhi. Besides, the statement asking if tourism increases the benign natural ambiance loaded in this factor in the case of Patong. The means of factor values are 3.21 and 4.22 (negative statements) in the case of Laguna Phuket and Doson, respectively, which show positive perceptions of environmental impacts of tourism in these cases. However, it is not so in the cases of Patong and Batu Ferringhi. This information suggests that environmental tourism impacts in the case of Patong and Batu Ferringhi may be more salient than in the case of Doson, given that these resort destination are in the same stage of development.

2.4 Attitude to Tourism Development

This factor includes three statements (tourism improves the appearance of this area; tourism increases quality of life; tourism should be developed further in this area). However, there appeared to be low reliability compared to response in other sections, except for the case of Batu Ferringhi. This may be due to the complexity of the issues, which have many dimensions and therefore appear as inconsistent and biased responses. Larger sample size may also help overcome this problem. Despite this shortcoming, the result indicates more positive responses in the case of Laguna Phuket and Doson, and somewhat neutral in the case of Patong and Batu Ferringhi. This concurs with responses of industrial people as mentioned above.

2.5 Analysis of Variance (ANOVA) by Demographic Variables

One-way ANOVA was carried out to examine the variations in perceptions of local residents by age, gender, job category and education level. It is hypothesized that people of different age, gender, in different job categories and education level may have different perceptions on tourism impacts. To explain the ANOVA results, the F-statistic with its probability (p-value) was used as an indicator to consider the effect of independent variables on dependent variables. For the case of Laguna Phuket, the result shows that the demographic variables were not significant for most factors, except for education level. People of different education levels have different perception on socio-cultural impacts of tourism and tourism's role in improving quality of life at the 0.1 and 0.05 significant level, respectively (Table 2).

Table 2 Summary of Analysis of Variance by demographic variables

Independent variable	Socio-cultural		Economic		Environmental		Quality of life	
	F-test	Sig.	F-test	Sig.	F-test	Sig.	F-test	Sig.
Laguna Phuket								
- Age	0.373	0.826	1.655	0.176	0.768	0.552	1.582	0.195
- Gender	0.862	0.358	0.072	0.789	2.070	0.156	0.262	0.611
- Job category	0.100	0.753	0.791	0.387	0.880	0.353	0.964	0.331
- Education level	2.422	0.099*	0.140	0.870	0.904	0.412	3.372	0.042**
Patong								
- Age	0.615	0.688	0.955	0.451	2.270	0.057*	1.714	0.143
- Gender	0.008	0.928	0.526	0.471	2.317	0.132	1.042	0.311
- Job category	1.751	0.190	0.285	0.595	0.165	0.686	4.897	0.030**
- Education level	0.033	0.967	0.945	0.393	0.975	0.382	0.407	0.667
Batu Ferringhi								
- Age	1.148	0.342	0.195	0.940	0.297	0.879	0.425	0.790
- Gender	0.260	0.612	1.344	0.251	0.003	0.959	0.075	0.785
- Job category	1.362	0.262	0.780	0.510	1.514	0.219	6.015	0.001***
- Education level	1.830	0.169	2.339	0.104	0.934	0.398	0.555	0.577
Doson								
- Age	1.104	0.362	1.002	0.413	2.264	0.071*	0.654	0.626
- Gender	0.052	0.820	0.334	0.565	0.022	0.883	2.450	0.122
- Job category	1.426	0.236	0.153	0.697	0.030	0.862	0.154	0.696
- Education level	0.697	0.502	1.873	0.161	1.533	0.223	1.233	0.297
Mean comparison	19.0 (1)	0.000	9.61	0.000	28.77 (2)	0.000	29.36(3)	0.000

Note: Sig. Significant level: * significant at 0.10 level

 ** significant at 0.05 level

 *** significant at 0.01 level

(1) The case of Doson is excluded

(2) The cases of Patong and Batu Ferringhi are excluded

(3) The case of Patong is excluded

Similarly, in the case of Patong resort, the demographic variables did not have effects on perception of tourism impacts, except for job category and age. The data show that there are different perceptions among respondents with different occupations, about the role of tourism in improvement of quality of life ($p < 0.05$). Likewise, in the case of Batu Ferringhi, job category appears to be a significant variable ($p < 0.01$) in explaining the variance of perceptions on tourism impacts in enhancement of quality of life. People at different ages perceived differently environmental impacts of tourism in the cases of Patong and Doson ($p < 0.1$), but not in the two other cases.

2.6 Conclusion

Despite few differences in factor structure in some cases, the results show that residents in the four cases have quite clear perceptions and positive evaluation of tourism impacts on local economic, social, cultural and natural environments. For the case of Laguna Phuket, it appears that resort development has resulted in a significant contribution to local economic conditions, improvement of the local socio-cultural environment, and enhancement of the physical environment. Tourism is expected to develop further. The mean of the factor on improvement of quality of life is 5.58, while it is somewhat lower in the case of Doson. In the case of Patong and Batu Ferringhi, this value is slightly neutral. On the one hand, to some extent it shows the different level of contribution and impacts of resort development to local environments. On the other hand, this may be due to different stages of the resort life cycle where it is consolidated in the case of Patong, Batu Ferringhi and Doson compared to Laguna Phuket resort.

Similarly, in the case of Doson, residents were more positive about social and cultural impacts of tourism. The environmental impacts were perceived to be neutral. In the cases of Patong and Batu Ferringhi, the socio-cultural and environmental impacts are viewed from neutral to negative, while economic impacts of tourism are positively perceived in these cases.

The ANOVA results show that the demographic variables almost have no significant effect on residents' perception about economic, socio-cultural and environmental impacts of tourism in most cases. In the cases of *ad hoc* resorts, it is interesting to find that people at different ages perceived differently environmental impacts of tourism

development. This indicates implicitly that irritation level of local people to tourism development is not clear, though the means of the environmental impact factor show negative responses in the case of Patong and is neutral in the case of Doson. The perception about tourism's role in improving quality of life was affected by some demographic variables, such as education level in the case of Laguna Phuket, and job category in the case of Patong and Batu Ferringhi. The result may suggest a clear perception of local residents on economic, social and cultural impacts of tourism, while this is not the case of responses to the statement that tourism improves overall quality of life, which is a much broader statement.

Appendix 15 Summary of Factors Analysis – Industry Survey at Laguna Phuket

1- Resource Use and Environmental Management				
Survey Questions	Factor 1	Factor 2	Factor 3	Communality
Statement 1	0.708	0.113	-0.120	0.529
Statement 2	0.820	0.295	0.002	0.759
Statement 3	0.870	0.006	0.078	0.763
Statement 4	0.852	0.038	0.181	0.761
Statement 5	0.683	0.298	0.240	0.614
Statement 6	0.159	0.822	0.259	0.769
Statement 7	0.111	0.791	-0.245	0.698
Statement 10	0.005	0.849	-0.178	0.747
Statement 8	0.052	-0.024	0.862	0.787
Statement 9	0.110	-0.119	0.872	0.783
<i>Eigenvalues</i>	3.207	2.229	1.774	-
<i>Cumulated percentage of variance</i>	32.07	54.36	72.10	-
<i>Cronbach's alpha</i>	0.86	0.78	0.74	-
Survey Questions	Factor 4	Factor 5	Factor 6	Communality
Statement 11	0.793	0.054	0.021	.549
Statement 16	0.797	0.016	0.036	.637
Statement 17	0.675	0.029	0.113	.469
Statement 20	0.679	-0.051	-0.315	.563
Statement 21	0.800	0.006	-0.029	.641
Statement 13	-0.110	0.943	-0.050	.905
Statement 14	0.195	0.909	0.112	.877
Statement 15	-0.034	0.638	0.580	.745
Statement 12	0.014	0.004	0.928	.862
<i>Eigenvalues</i>	2.790	2.132	1.327	-
<i>Cumulated percentage of variance</i>	31.00	54.689	69.434	-
<i>Cronbach's alpha</i>	79.29	81.20	-	-
Survey Questions	Factor 7	Factor 8	Factor 9	Communality
Statement 24	0.666	-0.271	-0.289	0.600
Statement 25	0.776	0.081	-0.201	0.649
Statement 26	0.889	0.150	-0.009	0.813
Statement 27	0.598	0.129	0.459	0.585
Statement 28	0.762	-0.121	0.339	0.711
Statement 19	0.088	0.913	0.027	0.841
Statement 29	-0.022	0.899	0.093	0.818
Statement 18	-0.102	0.342	0.501	0.378
Statement 22	-0.215	0.091	0.712	0.561
Statement 23	0.055	0.150	0.778	0.631
<i>Eigenvalues</i>	2.842	1.923	1.824	-
<i>Cumulated percentage of variance</i>	28.42	47.66	65.89	-
<i>Cronbach's alpha</i>	78.61	84.26	44.22*	-

* Alpha is 61.23 if statement 18 is excluded

Appendix 15 (con'ed)

II- Economic Benefits and Access							
Survey Questions		Factor 1	Factor 2	Factor 3	Communality		
Statement 1		0.793	-0.78	0.071	0.640		
Statement 2		0.734	-0.09	0.054	0.550		
Statement 3		0.777	0.239	0.171	0.690		
Statement 4		0.518	0.092	0.123	0.292		
Statement 8		-0.078	0.787	-0.147	0.647		
Statement 9		0.282	0.808	0.013	0.732		
Statement 5		0.375	-0.154	0.667	0.609		
Statement 6		-0.190	0.463	0.524	0.525		
Statement 7		0.156	-0.075	0.759	0.606		
Eigenvalues		2.325	1.595	1.369	-		
Cumulated percentage of variance		25.839	43.563	58.779	-		
Cronbach's alpha		75.05	59.38	54.21	-		
III- Socio-cultural Impacts							
Survey Questions		Factor 1	Factor 2	Factor 3	Communality		
Statement 4		0.945	-0.040	0.063	0.899		
Statement 5		0.835	0.288	-0.077	0.786		
Statement 6		0.842	0.354	-0.198	0.873		
Statement 1		0.106	0.895	-0.090	0.821		
Statement 2		0.166	0.748	0.301	0.677		
Statement 3		0.164	0.722	0.090	0.557		
Statement 7		-0.188	0.160	0.734	0.600		
Statement 8		0.115	-0.059	0.796	0.651		
Statement 9		-0.079	0.103	0.699	0.505		
Eigenvalues		2.419	2.132	1.716	-		
Cumulated percentage of variance		26.87	50.56	70.74	-		
Cronbach's alpha		0.88	0.73	0.62	-		
IV- Planning and Staff Training							
Survey Questions		Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Communality
Statement 1		0.804	0.021	-0.219	0.185	0.165	0.757
Statement 2		0.860	0.118	0.038	-0.074	0.040	0.762
Statement 3		0.714	-0.094	0.090	0.468	-0.006	0.746
Statement 6		0.643	0.076	0.347	0.168	0.033	0.569
Statement 7		0.584	-0.106	0.295	-0.021	-0.212	0.485
Statement 5		-0.125	0.830	0.099	0.353	-0.156	0.864
Statement 10		0.169	0.738	0.489	0.076	0.027	0.819
Statement 14		0.119	0.713	0.335	0.070	0.367	0.775
Statement 16		-0.059	0.831	-0.027	0.007	0.224	0.745
Statement 8		0.042	-0.053	0.527	0.469	0.515	0.768
Statement 11		0.159	0.303	0.776	0.015	0.114	0.733
Statement 12		0.254	0.197	0.708	0.245	-0.117	0.678
Statement 13		-0.147	0.058	0.772	0.093	0.297	0.727
Statement 9		0.100	0.120	0.197	0.911	0.063	0.898
Statement 17		0.184	0.330	0.019	0.770	0.115	0.750
Statement 15		0.088	0.262	0.250	0.123	0.798	0.750
Statement 4		0.475	-0.123	0.290	0.475	-0.491	0.793
Eigenvalues		3.112	2.818	2.791	2.377	1.561	-
Cumulated percentage of variance		18.30	34.88	51.29	65.28	74.46	-
Cronbach's alpha		0.78	0.85	0.78	0.87	-	-

Appendix 15 (Con'ed)

Survey Questions	Factor 6	Factor 7	Factor 8	Communality		
Statement 19	0.848	0.180	0.026	0.752		
Statement 21	0.896	0.115	-0.06	0.838		
Statement 24	0.512	-0.101	0.189	0.308		
Statement 18	0.123	0.874	-0.174	0.809		
Statement 20	0.115	0.790	-0.064	0.642		
Statement 23	0.054	-0.114	0.746	0.572		
Statement 25	0.067	-0.014	0.837	0.705		
Statement 22	0.436	-0.491	-0.313	0.529		
Eigenvalues	2.009	1.718	1.428	-		
Cumulated percentage of variance	25.12	46.59	64.43	-		
Cronbach's alpha	0.67	0.76	51.37	-		
V- Marketing and research						
Survey Questions	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Communality
Statement 2	0.881	-0.185	0.140	-0.139	-0.013	0.849
Statement 3	0.790	0.224	0.004	0.184	0.196	0.747
Statement 6	0.578	-0.337	-0.432	0.261	0.017	0.702
Statement 9	0.827	-0.284	0.076	0.021	0.053	0.774
Statement 10	0.840	-0.117	0.220	0.032	0.045	0.771
Statement 11	0.671	0.085	-0.403	0.378	-0.069	0.768
Statement 7	-0.201	0.778	0.060	-0.172	-0.417	0.853
Statement 12 (re-coded)	-0.361	0.750	0.019	0.005	0.122	0.708
Statement 15 (re-coded)	0.089	0.856	-0.078	-0.075	0.148	0.775
Statement 1 (re-coded)	0.128	-0.015	0.768	-0.025	0.323	0.712
Statement 13	0.108	-0.063	0.865	0.257	-0.115	0.842
Statement 4	-0.024	-0.041	0.091	0.784	0.317	0.726
Statement 5	0.457	-0.160	0.047	0.565	-0.160	0.582
Statement 8	0.005	-0.483	0.175	0.519	-0.348	0.654
Statement 14	0.073	0.068	0.135	0.074	0.844	0.746
Eigenvalues	4.705	2.177	1.916	1.267	1.145	-
Cumulated percentage of variance	31.37	45.89	58.66	67.10	74.74	-
Cronbach's alpha	0.88	0.76	0.66	0.43	-	-

Appendix 16 Summary of Factors Analysis – Industry Survey at Patong

I - Resource Use and Environmental Management					
Survey Questions	Factor 1	Factor 2	Factor 3	Communality	
Statement 1	0.830	0.144	0.024	0.711	
Statement 2	0.779	-0.132	0.157	0.649	
Statement 3	0.785	0.013	0.027	0.617	
Statement 4	0.612	0.530	0.125	0.671	
Statement 8	-0.095	0.725	0.040	0.537	
Statement 9	0.283	0.811	0.049	0.739	
Statement 10	-0.073	0.614	0.400	0.542	
Statement 6	0.198	0.447	0.636	0.643	
Statement 7	0.074	0.002	0.887	0.793	
Statement 5	0.469	0.398	0.366	0.512	
<i>Eigenvalues</i>	2.647	2.238	1.531	-	
<i>Cumulated percentage of variance</i>	26.47	48.84	64.15	-	
<i>Cronbach's alpha</i>	0.77	0.61	0.57	-	
Survey Questions	Factor 4	Factor 5	Factor 6	Communality	
Statement 11	0.731	-0.019	0.078	0.540	
Statement 16	0.825	-0.016	0.113	0.693	
Statement 17	0.847	-0.080	-0.006	0.727	
Statement 20	0.729	0.208	0.060	0.579	
Statement 21	0.861	0.087	-0.182	0.782	
Statement 12	0.024	0.864	0.068	0.751	
Statement 15	0.018	0.850	0.050	0.725	
Statement 13	0.229	0.390	0.812	0.864	
Statement 14	-0.139	-0.097	0.933	0.900	
<i>Eigenvalues</i>	3.276	1.688	1.598	-	
<i>Cumulated percentage of variance</i>	36.40	55.16	72.91	-	
<i>Cronbach's alpha</i>	0.85	0.67	0.74	-	
Survey Questions	Factor 7	Factor 8	Factor 9	Factor 10	Communality
Statement 24	0.870	-0.125	0.240	-0.101	0.840
Statement 25	0.906	0.055	0.016	-0.087	0.832
Statement 26	0.884	0.158	0.006	0.075	0.813
Statement 28	0.731	0.086	-0.131	0.510	0.820
Statement 18	-0.176	0.882	0.087	-0.298	0.388
Statement 19	0.178	0.889	0.022	0.015	0.810
Statement 29	0.087	0.510	0.167	-0.074	0.832
Statement 22	0.084	0.131	0.921	0.108	0.885
Statement 23	0.031	0.104	0.941	-0.019	0.898
Statement 27	-0.065	-0.199	0.129	0.911	0.891
<i>Eigenvalues</i>	2.977	1.947	1.862	1.221	-
<i>Cumulated percentage of variance</i>	29.77	49.24	67.87	80.07	-
<i>Cronbach's alpha</i>	0.88	0.68*	0.87	-	-

* Alpha is 0.83 if statement 18 is excluded

Appendix 16 (Con'ed)

II - Economic Benefits and Access							
Survey Questions	Factor 1	Factor 2	Factor 3	Factor 4	Communality		
Statement 5	0.966	0.034	0.053	0.014	0.938		
Statement 7	0.902	0.211	0.019	0.128	0.875		
Statement 1	-0.058	0.836	0.012	0.257	0.768		
Statement 2	0.306	0.716	0.041	-0.248	0.669		
Statement 3	0.097	0.647	0.066	0.147	0.454		
Statement 8	0.009	-0.034	0.881	-0.107	0.720		
Statement 9	0.043	0.141	0.796	0.078	0.661		
Statement 4	0.049	0.192	-0.243	0.788	0.720		
Statement 6	0.118	0.019	0.456	0.675	0.677		
Eigenvalues	1.872	1.733	1.687	1.259	-		
Cumulated percentage of variance	20.80	40.06	58.80	72.79	-		
Cronbach's alpha	0.89	0.60	0.68	0.33	-		
III - Socio-cultural Impacts							
Survey Questions	Factor 1	Factor 2	Factor 3	Communality			
Statement 7	0.876	0.124	0.187	0.818			
Statement 8	0.838	0.302	-0.175	0.824			
Statement 9	0.931	0.051	0.137	0.888			
Statement 1	0.146	0.865	-0.293	0.855			
Statement 2	0.085	0.937	-0.110	0.896			
Statement 3	0.198	0.806	0.088	0.697			
Statement 4	0.123	0.020	0.898	0.821			
Statement 5	0.026	-0.084	0.851	0.732			
Statement 6	0.023	-0.167	0.765	0.613			
Eigenvalues	2.421	2.419	2.305	-			
Cumulated percentage of variance	26.90	53.78	79.39	-			
Cronbach's alpha	0.88	0.87	0.81	-			
IV – Planning and Staff Training							
Survey Questions	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Communality
Statement 1	0.876	0.090	-0.010	0.091	0.189	0.128	0.836
Statement 2	0.818	-0.064	-0.088	0.240	0.101	-0.184	0.783
Statement 3	0.848	0.091	-0.041	-0.136	0.021	0.087	0.756
Statement 4	0.811	0.108	0.070	-0.161	0.102	0.226	0.761
Statement 11	0.138	0.826	0.085	0.045	0.159	-0.068	0.740
Statement 12	-0.015	0.893	0.028	-0.009	-0.046	0.162	0.826
Statement 13	0.072	0.721	0.118	0.106	0.246	-0.043	0.612
Statement 5	0.019	-0.302	0.556	0.443	0.395	0.148	0.774
Statement 10	-0.024	0.150	0.915	0.121	-0.042	-0.000	0.877
Statement 14	-0.018	0.180	0.895	0.039	-0.080	0.020	0.843
Statement 16	-0.064	-0.231	0.507	0.099	0.393	0.432	0.666
Statement 6	0.064	0.012	0.059	0.851	-0.048	0.306	0.828
Statement 7	-0.067	0.174	0.166	0.864	-0.031	-0.053	0.813
Statement 9	0.171	0.291	-0.016	0.116	0.764	0.084	0.718
Statement 17	0.197	0.133	-0.011	-0.225	0.858	-0.004	0.843
Statement 15	0.174	-0.012	0.139	0.120	-0.025	0.835	0.761
Statement 8	0.085	0.350	-0.219	0.157	0.289	0.475	0.512
Eigenvalues	2.958	2.486	2.340	1.920	1.869	1.377	-
Cumulated percentage of variance	17.40	32.02	45.79	57.08	68.08	76.18	-
Cronbach's alpha	0.87	0.81	0.78	0.77	0.78	-	-

Appendix 16 (Con'ed)

Survey Questions	Factor 7	Factor 8	Factor 9	Factor 10	Communality
Statement 19	0.944	0.150	-0.056	-0.052	0.920
Statement 21	0.962	0.025	-0.058	0.072	0.934
Statement 23	0.322	0.771	0.089	-0.023	0.706
Statement 24	-0.087	0.877	-0.103	0.076	0.793
Statement 22	-0.003	-0.025	0.775	0.170	0.631
Statement 25	0.081	0.000	0.795	0.006	0.638
Statement 18	0.174	0.074	0.039	0.779	0.645
Statement 20	-0.156	-0.019	0.122	0.781	0.650
Eigenvalues	1.989	1.392	1.274	1.261	-
Cumulated percentage of variance	24.86	42.26	58.19	73.95	-
Cronbach's alpha	0.94	0.56	0.37	0.39	-
V - Marketing and Research					
Survey Questions	Factor 1	Factor 2	Factor 3	Factor 4	Communality
Statement 2	0.660	-0.376	0.327	-0.125	0.700
Statement 3	0.856	-0.273	-0.122	-0.083	0.829
Statement 5	0.725	-0.220	0.375	0.095	0.723
Statement 6	0.757	-0.419	-0.166	0.039	0.661
Statement 9	0.740	-0.151	0.378	-0.215	0.760
Statement 10	0.757	-0.188	0.261	0.152	0.699
Statement 11	0.875	-0.159	0.065	-0.013	0.600
Statement 7	-0.224	0.880	-0.116	-0.036	0.839
Statement 12	-0.331	0.817	-0.058	0.096	0.790
Statement 13	-0.293	0.831	0.033	0.135	0.795
Statement 15	-0.164	0.857	-0.092	0.024	0.770
Statement 1	0.184	-0.154	0.879	0.152	0.795
Statement 4	-0.180	-0.295	0.033	0.527	0.835
Statement 8	0.219	0.088	0.006	0.804	0.702
Statement 14	-0.335	0.320	0.207	0.559	0.570
Eigenvalues	4.535	3.611	1.551	1.372	-
Cumulated percentage of variance	30.23	54.30	64.64	73.79	-
Cronbach's alpha	0.92	0.92	-	0.35	-

Appendix 17 Summary of Factors Analysis – Industry Survey at Batu Ferringhi

Section 1 Resource Use and Environmental Management					
Survey Questions	Factor 1	Factor 2	Factor 3	Communality	
Statement 1	0.784	0.247	0.290	0.760	
Statement 2	0.801	0.085	0.252	0.713	
Statement 3	0.787	0.426	-0.003	0.802	
Statement 4	0.829	0.117	-0.154	0.724	
Statement 5	0.723	0.391	0.063	0.679	
Statement 6	0.338	0.837	0.124	0.830	
Statement 7	0.272	0.889	-0.047	0.867	
Statement 10	0.117	0.737	0.297	0.645	
Statement 8	0.173	0.166	0.877	0.827	
Statement 9	0.000	0.062	0.842	0.713	
<i>Eigenvalues</i>	<i>3.317</i>	<i>2.484</i>	<i>1.760</i>	-	
<i>Cumulated percentage of variance</i>	<i>33.17</i>	<i>58.00</i>	<i>75.60</i>	-	
<i>Cronbach's alpha</i>	<i>0.89</i>	<i>0.84</i>	<i>0.75</i>	-	
Survey Questions	Factor 4	Factor 5	Factor 6	Communality	
Statement 11	0.874	-0.139	0.134	0.801	
Statement 16	0.823	0.097	-0.044	0.689	
Statement 17	0.842	0.070	-0.133	0.731	
Statement 20	0.704	0.189	0.328	0.639	
Statement 21	0.776	0.085	-0.080	0.616	
Statement 13	0.135	0.937	0.099	0.906	
Statement 14	0.011	0.912	0.220	0.880	
Statement 12	0.199	-0.117	0.870	0.810	
Statement 15	0.174	0.168	0.718	0.574	
<i>Eigenvalues</i>	<i>3.335</i>	<i>1.828</i>	<i>1.483</i>	-	
<i>Cumulated percentage of variance</i>	<i>37.06</i>	<i>57.36</i>	<i>73.84</i>	-	
<i>Cronbach's alpha</i>	<i>0.71</i>	<i>0.88</i>	<i>0.74</i>	-	
Survey Questions	Factor 7	Factor 8	Factor 9	Factor 10	Communality
Statement 24	0.516	0.327	0.140	-0.109	0.396
Statement 25	0.845	-0.153	0.045	0.230	0.729
Statement 26	0.760	0.217	0.054	-0.445	0.827
Statement 28	0.737	-0.048	0.165	-0.059	0.577
Statement 18	0.058	0.889	-0.116	0.172	0.837
Statement 22	-0.058	0.736	0.097	-0.008	0.555
Statement 23	0.139	0.762	-0.207	-0.340	0.759
Statement 19	0.184	-0.139	0.908	0.023	0.879
Statement 29	0.100	0.037	0.918	-0.105	0.866
Statement 27	-0.050	0.010	-0.076	0.954	0.920
<i>Eigenvalues</i>	<i>2.174</i>	<i>2.114</i>	<i>1.784</i>	<i>1.335</i>	-
<i>Cumulated percentage of variance</i>	<i>21.74</i>	<i>42.89</i>	<i>60.72</i>	<i>74.07</i>	-
<i>Cronbach's alpha</i>	<i>0.72</i>	<i>0.73</i>	<i>0.85</i>	-	-

Appendix 17 (Con'ed)

Section 2 Economic Benefits and Access					
Survey Questions	Factor 1	Factor 2	Factor 3	Factor 4	Communality
Statement 1	0.892	-0.094	-0.140	-0.002	0.824
Statement 2	0.782	0.130	0.199	0.312	0.765
Statement 3	0.858	0.201	0.224	-0.068	0.832
Statement 5	0.428	0.625	-0.192	-0.011	0.611
Statement 6	0.005	0.625	-0.301	0.305	0.574
Statement 7	-0.011	0.832	-0.064	0.125	0.712
Statement 8	0.031	0.014	0.900	-0.131	0.828
Statement 9	0.251	-0.097	0.624	0.560	0.775
Statement 4	0.021	-0.001	-0.064	0.883	
Eigenvalues	2.392	1.549	1.447	1.322	
Cumulated percentage of variance	26.58	43.79	59.87	74.56	
Cronbach's alpha	0.81	0.73	0.54	-	
Section 3 Socio-cultural impacts					
Survey Questions	Factor 1	Factor 2	Factor 3	Communality	
Statement 1	0.836	0.317	-0.239	0.856	
Statement 2	0.817	0.086	-0.030	0.676	
Statement 3	0.834	0.173	-0.328	0.832	
Statement 7	0.163	0.883	-0.049	0.809	
Statement 8	0.362	0.801	-0.096	0.782	
Statement 9	0.044	0.850	-0.323	0.829	
Statement 4	-0.047	-0.179	0.839	0.738	
Statement 5	-0.337	-0.172	0.737	0.687	
Statement 6	-0.168	-0.066	0.876	0.800	
Eigenvalues	2.364	2.348	2.297	-	
Cumulated percentage of variance	26.27	52.36	77.88	-	
Cronbach's alpha	0.85	0.85	0.81	-	
Section 4					

Appendix 17 (Con'ed)

Survey Questions	Factor 6	Factor 7	Factor 8	Communality	
Statement 18	0.949	-0.045	-0.110	0.916	
Statement 20	0.921	-0.102	-0.029	0.860	
Statement 19	0.524	0.619	-0.317	0.759	
Statement 21	-0.492	0.699	0.223	0.780	
Statement 22	0.046	0.559	0.314	0.413	
Statement 25	0.082	0.776	0.260	0.676	
Statement 23	-0.265	0.154	0.772	0.690	
Statement 24	0.017	0.047	0.902	0.817	
Eigenvalues	2.346	1.825	1.739	-	
Cumulated percentage of variance	29.33	52.14	73.88	-	
Cronbach's alpha	0.93	0.70	0.74	-	
Section 5 Marketing and Research					
Survey Questions	Factor 1	Factor 2	Factor 3	Factor 4	Communality
Statement 2	0.874	0.180	0.171	0.033	0.826
Statement 3	0.753	0.280	-0.078	0.044	0.654
Statement 5	0.878	0.008	-0.015	0.020	0.772
Statement 6	0.883	0.189	0.017	-0.094	0.825
Statement 8	0.669	0.161	0.040	0.269	0.547
Statement 9	0.860	0.102	-0.083	0.117	0.770
Statement 10	0.736	0.375	-0.114	-0.044	0.697
Statement 7	0.176	0.931	-0.009	-0.020	0.899
Statement 12	-0.474	-0.804	-0.045	0.021	0.873
Statement 15	-0.211	-0.889	0.018	0.038	0.836
Statement 4	0.151	0.039	0.743	0.080	0.583
Statement 11	-0.294	-0.050	0.800	0.056	0.732
Statement 1	0.080	-0.039	0.103	0.935	0.893
Statement 14	-0.349	0.451	-0.319	0.233	0.482
Eigenvalues	5.318	3.062	1.381	1.172	
Cumulated percentage of variance	35.46	55.87	65.08	72.89	
Cronbach's alpha	0.93	0.93	0.47	-	

Appendix 18 Summary of Factors Analysis – Industry Survey at Doson

Section 1 Resource Use and Environmental Management						
Survey Questions		Factor 1	Factor 2	Factor 3	Communality	
Statement 1		0.882	0.064	-0.080	0.789	
Statement 2		0.890	0.069	-0.077	0.802	
Statement 3		0.729	0.165	0.044	0.561	
Statement 4		0.801	-0.024	0.148	0.664	
Statement 5		0.850	-0.003	0.222	0.773	
Statement 6		0.056	0.858	-0.068	0.745	
Statement 7		-0.112	0.750	-0.073	0.580	
Statement 9		0.348	0.536	0.366	0.542	
Statement 10		-0.042	-0.076	0.918	0.850	
Statement 8		0.237	0.478	0.413	0.455	
Eigenvalues		3.661	1.857	1.242	-	
Cumulated percentage of variance		36.61	55.18	67.60	-	
Cronbach's alpha		0.89	0.61	-	-	
Survey Questions		Factor 4	Factor 5	Communality		
Statement 11		0.776	-0.124	0.618		
Statement 16		0.600	0.059	0.363		
Statement 17		0.640	0.214	0.456		
Statement 20		0.611	0.112	0.385		
Statement 21		0.826	-0.239	0.740		
Statement 13		0.102	0.731	0.545		
Statement 14		0.076	0.788	0.627		
Statement 15		-0.058	0.706	0.501		
Statement 12		0.484	0.314	0.333		
Eigenvalues		2.682	1.886	-		
Cumulated percentage of variance		29.81	50.76	-		
Cronbach's alpha		0.71	0.62	-		
Survey Questions		Factor 6	Factor 7	Factor 8	Factor 9	Communality
Statement 24		0.706	0.333	0.060	0.279	0.690
Statement 25		0.768	0.343	-0.122	-0.082	0.729
Statement 26		0.739	-0.307	0.017	-0.382	0.786
Statement 28		0.815	-0.059	-0.037	0.054	0.672
Statement 19		0.092	0.835	0.075	-0.029	0.713
Statement 29		-0.008	0.710	-0.047	-0.147	0.525
Statement 22		0.060	-0.016	0.820	0.063	0.680
Statement 23		-0.145	0.066	0.802	0.004	0.669
Statement 18		-0.010	-0.164	0.099	0.882	0.815
Statement 27		-0.347	0.189	0.242	-0.299	0.324
Eigenvalues		2.471	1.594	1.410	1.127	
Cumulated percentage of variance		24.71	40.66	54.76	66.03	
Cronbach's alpha		0.77	0.50	0.49	-	

Appendix 18 (Con'ed)

Section 2 Economic Benefits and Access					
Survey Questions	Factor 1	Factor 2	Factor 3	Communality	
Statement 1	0.631	0.162	0.467	0.642	
Statement 2	0.852	0.060	0.076	0.736	
Statement 3	0.760	-0.165	0.156	0.629	
Statement 8	0.105	0.852	0.109	0.750	
Statement 9	-0.019	0.848	0.146	0.742	
Statement 5	0.035	-0.007	0.744	0.555	
Statement 7	0.021	0.058	0.743	0.556	
Statement 4	0.491	0.284	-0.185	0.356	
Statement 6	-0.121	-0.197	-0.421	0.230	
Eigenvalues	1.971	1.626	1.599	-	
Cumulated percentage of variance	21.89	39.97	57.73	-	
Cronbach's alpha	0.72	0.72	0.42	-	
Section 3 Socio-cultural Impacts					
Survey Questions	Factor 1	Factor 2	Factor 3	Communality	
Statement 1	0.666	-0.217	0.045	0.494	
Statement 2	0.775	0.009	0.122	0.618	
Statement 3	0.867	-0.027	0.060	0.741	
Statement 4	-0.349	0.803	-0.219	0.810	
Statement 5	0.227	0.855	-0.056	0.789	
Statement 6	-0.299	0.702	0.444	0.766	
Statement 7	-0.114	-0.065	0.884	0.786	
Statement 9	0.430	0.011	0.688	0.571	
Statement 8	0.420	-0.040	0.495	0.451	
Eigenvalues	2.391	1.929	1.707	-	
Cumulated percentage of variance	26.57	48.00	66.97	-	
Cronbach's alpha	0.73	0.73	0.50	-	
Section 4 Planning and Staff Training					
Survey Questions	Factor 1	Factor 2	Factor 3	Factor 4	Communality
Statement 5	0.786	0.009	0.154	-0.096	0.651
Statement 7	0.621	0.006	0.280	0.225	0.515
Statement 8	0.753	0.045	0.134	0.172	0.616
Statement 10	0.606	0.203	0.234	-0.472	0.686
Statement 14	0.578	0.190	0.299	-0.403	0.622
Statement 15	0.869	0.011	0.175	0.024	0.786
Statement 16	0.835	-0.042	0.123	-0.016	0.714
Statement 1	0.108	0.845	-0.103	-0.091	0.745
Statement 2	0.309	0.797	-0.132	-0.027	0.749
Statement 3	-0.157	0.892	0.101	0.008	0.831
Statement 4	-0.075	0.895	0.117	-0.133	0.839
Statement 11	0.279	0.011	0.890	0.147	0.892
Statement 12	0.340	0.020	0.881	-0.040	0.893
Statement 13	0.202	-0.049	0.869	0.069	0.803
Statement 9	0.121	-0.265	0.107	0.785	0.713
Statement 17	0.002	0.070	0.146	0.796	0.659
Statement 6	0.429	0.000	0.224	-0.324	0.339
Eigenvalues	4.293	3.107	2.767	1.885	-
Cumulated percentage of variance	25.25	43.53	59.80	70.89	-
Cronbach's alpha	0.88	0.88	0.92	0.68	-

Appendix 18 (Con'ed)

Survey Questions	Factor 5	Factor 6	Factor 7	Communality		
Statement 18	0.864	0.125	0.021	0.762		
Statement 20	0.836	-0.082	0.027	0.707		
Statement 23	0.828	-0.074	-0.030	0.692		
Statement 24	0.812	-0.053	-0.200	0.703		
Statement 19	-0.067	0.930	0.059	0.869		
Statement 21	-0.072	0.935	-0.070	0.885		
Statement 25	0.086	0.115	0.909	0.846		
Statement 22	0.302	0.216	-0.416	0.311		
Eigenvalues	2.894	1.831	1.049	-		
Cumulated percentage of variance	36.17	59.06	72.17	-		
Cronbach's alpha	0.86	0.87	-	-		
Section 5 Marketing and Research						
Survey Questions	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Communality
Statement 2	0.746	0.008	0.074	0.204	-0.069	0.608
Statement 3	0.898	-0.072	0.098	0.068	0.018	0.827
Statement 6	0.581	0.122	0.536	0.235	-0.133	0.713
Statement 9	0.814	-0.240	0.069	-0.099	0.167	0.763
Statement 10	0.846	-0.249	-0.092	0.067	-0.065	0.795
Statement 7	-0.304	0.565	-0.338	-0.240	0.269	0.656
Statement 12	-0.093	0.767	0.313	0.121	-0.088	0.717
Statement 13	-0.011	0.766	-0.100	0.240	0.030	0.656
Statement 15	-0.155	0.693	-0.040	-0.321	0.034	0.610
Statement 5	0.532	-0.021	0.665	0.301	-0.131	0.833
Statement 8	-0.103	-0.020	0.755	-0.279	0.102	0.670
Statement 1	0.235	-0.007	-0.047	0.794	-0.036	0.688
Statement 14	-0.293	0.121	-0.189	0.531	0.524	0.693
Statement 4	0.345	-0.049	0.007	0.313	0.704	0.716
Statement 11	-0.109	0.052	0.032	-0.227	0.766	0.653
Eigenvalues	3.769	2.135	1.590	1.579	1.523	-
Cumulated percentage of variance	25.13	39.36	49.96	60.49	70.65	-
Cronbach's alpha	0.86	0.67	0.30	0.35	0.42	-

Appendix 19 Summary of Factor Analysis - Survey of Residents at Laguna Phuket

Survey Questions	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Communality
Statement 5	0.651	-0.120	0.126	0.221	0.409	0.079	0.678
Statement 6	0.697	0.117	0.081	0.070	0.435	0.204	0.742
Statement 8	0.870	-0.140	-0.009	-0.073	-0.137	-0.009	0.801
Statement 9	0.833	-0.107	-0.087	-0.109	-0.044	-0.166	0.841
Statement 13	0.823	0.080	-0.001	0.020	0.151	-0.163	0.734
Statement 1	-0.118	0.833	0.155	-0.017	0.201	-0.027	0.771
Statement 2	-0.114	0.786	0.066	0.022	0.328	0.027	0.745
Statement 3	0.166	0.683	0.220	0.089	-0.394	-0.003	0.707
Statement 4	-0.031	0.795	0.060	0.117	-0.066	0.138	0.674
Statement 16	0.142	0.648	0.299	0.384	-0.167	0.118	0.718
Statement 19	-0.374	0.572	0.033	-0.057	-0.299	-0.215	0.607
Statement 10	0.076	0.125	0.651	0.187	-0.091	0.382	0.635
Statement 11	0.072	0.092	0.767	-0.093	0.153	-0.012	0.628
Statement 12	-0.161	0.104	0.746	0.180	-0.127	-0.255	0.707
Statement 18	0.084	0.238	0.707	-0.092	0.051	0.317	0.675
Statement 14	0.091	-0.054	-0.004	0.804	-0.138	-0.009	0.677
Statement 15	0.208	0.313	0.299	0.585	-0.156	-0.235	0.652
Statement 20	-0.341	0.205	-0.072	0.751	0.132	0.092	0.752
Statement 7	0.244	0.023	0.026	-0.195	0.730	-0.191	0.668
Statement 17	-0.151	0.051	0.118	-0.038	-0.108	0.866	0.803
<i>Eigenvalues</i>	3.629	3.463	2.378	1.921	1.482	1.345	-
<i>Cumulated % of variance</i>	18.14	35.46	47.35	56.96	64.37	71.09	-
<i>Cronbach's alpha</i>	0.87	0.83	0.73	0.62	-	-	-

Appendix 20 Summary of Factor Analysis – Survey of Residents at Patong

Survey Questions	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Communality
Statement 1	0.801	0.090	0.056	0.312	-0.114	-0.003	0.764
Statement 2	0.783	0.022	-0.053	0.294	-0.112	0.147	0.737
Statement 3	0.869	-0.148	-0.091	0.035	-0.107	-0.025	0.798
Statement 4	0.849	-0.124	-0.012	-0.029	0.154	-0.033	0.762
Statement 16	0.810	-0.151	-0.181	-0.062	0.258	-0.006	0.781
Statement 19	0.866	0.146	0.054	-0.143	-0.047	0.055	0.798
Statement 5	-0.067	0.830	0.069	-0.023	-0.167	-0.023	0.727
Statement 6	-0.213	0.630	-0.075	0.104	-0.107	-0.025	0.539
Statement 7	0.010	0.736	0.082	0.188	-0.012	0.151	0.607
Statement 8	-0.218	0.772	0.304	-0.037	0.237	-0.050	0.797
Statement 9	-0.191	0.771	0.233	0.022	0.236	-0.238	0.798
Statement 13	0.091	0.606	-0.033	0.104	-0.107	0.112	0.622
Statement 10	-0.140	0.233	0.713	-0.364	-0.195	0.159	0.778
Statement 11	0.028	0.211	0.653	-0.013	-0.460	-0.024	0.684
Statement 12	-0.171	-0.131	0.606	-0.061	0.198	-0.076	0.462
Statement 18	0.057	0.051	0.593	0.445	0.205	0.106	0.609
Statement 20	0.264	0.027	-0.083	0.831	0.015	-0.036	0.768
Statement 14	0.078	0.022	0.039	0.047	0.813	0.114	0.685
Statement 17	-0.029	-0.034	0.102	-0.028	0.132	0.900	0.841
Statement 15	0.462	-0.082	-0.195	0.488	-0.048	0.484	0.731
<i>Eigenvalues</i>	4.622	3.614	1.925	1.536	1.302	1.288	-
<i>Cumulated % of variance</i>	23.10	41.17	50.79	58.48	64.99	71.43	-
<i>Cronbach's alpha</i>	0.92	0.84	0.53	-	-	-	-

Appendix 21 Summary of Factor Analysis – Survey of Residents at Batu Ferringhi

Survey Questions	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Communality
Statement 1	0.616	0.247	-0.072	0.173	0.434	0.664
Statement 2	0.664	0.207	-0.154	0.073	0.563	0.830
Statement 3	0.857	0.177	-0.039	0.050	0.212	0.816
Statement 4	0.922	0.043	-0.045	0.110	0.081	0.873
Statement 16	0.779	0.075	0.103	0.121	-0.063	0.642
Statement 19	0.841	-0.115	0.024	0.070	-0.208	0.777
Statement 14	-0.044	0.811	-0.170	0.113	0.150	0.726
Statement 15	0.204	0.879	-0.068	-0.042	0.067	0.826
Statement 20	0.085	0.891	0.020	0.070	-0.208	0.851
Statement 5	0.077	-0.130	0.843	0.017	0.021	0.734
Statement 6	0.061	0.091	0.850	0.103	-0.157	0.770
Statement 7	-0.260	-0.123	0.598	0.020	-0.078	0.448
Statement 8	0.022	-0.040	0.601	0.048	0.248	0.427
Statement 10	0.163	-0.031	0.014	0.668	0.388	0.625
Statement 11	0.137	-0.113	-0.029	0.750	0.034	0.597
Statement 12	0.070	0.155	0.119	0.697	-0.062	0.533
Statement 18	0.149	0.032	0.111	0.766	-0.041	0.624
Statement 9	-0.049	-0.084	0.488	0.082	0.561	0.569
Statement 13	-0.158	0.251	-0.277	0.300	-0.180	-
Statement 17	0.290	0.482	-0.046	-0.203	0.392	-
<i>Eigenvalues</i>	4.035	2.765	2.575	2.347	1.409	-
<i>Cumulated % of variance</i>	20.17	34.00	46.87	58.61	65.65	-
<i>Cronbach's alpha</i>	0.90	0.86	0.69	0.73		-

Appendix 22 Summary of Factor Analysis – Survey of Residents at Doson

Survey Questions	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Communality
Statement 5	0.874	0.105	-0.019	0.002	-0.051	0.779
Statement 6	0.751	0.284	-0.213	-0.012	-0.107	0.701
Statement 8	0.875	-0.087	0.066	-0.101	-0.052	0.790
Statement 9	0.874	0.055	-0.054	0.074	-0.054	0.775
Statement 13	0.866	0.091	0.091	0.203	0.036	0.810
Statement 1	0.003	0.907	-0.051	0.069	-0.022	0.830
Statement 2	0.004	0.907	-0.102	-0.007	0.004	0.834
Statement 3	0.125	0.621	0.194	0.172	0.340	0.556
Statement 4	0.110	0.679	0.172	0.172	0.243	0.591
Statement 19	0.029	0.849	0.125	0.022	-0.013	0.738
Statement 10	-0.092	0.076	0.815	-0.161	0.168	0.733
Statement 11	0.024	-0.016	0.739	-0.032	-0.120	0.562
Statement 12	-0.074	0.039	0.847	-0.019	0.095	0.733
Statement 18	0.099	0.169	0.706	0.176	0.136	0.586
Statement 14	-0.046	0.011	0.019	0.762	0.168	0.612
Statement 15	0.052	0.034	-0.199	0.636	0.095	0.457
Statement 20	0.118	0.143	0.173	0.795	-0.221	0.746
Statement 16	0.085	0.473	0.207	-0.068	0.566	0.600
Statement 17	-0.070	0.090	0.054	0.113	0.722	0.550
Statement 7	0.485	-0.041	0.037	0.001	0.249	0.300
<i>Eigenvalues</i>	3.926	3.612	2.700	1.787	1.257	-
<i>Cumulated % of variance</i>	19.63	37.69	51.20	60.13	66.42	-
<i>Cronbach's alpha</i>	0.90	0.87	0.80	0.60	0.38	-