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How Green Is Your Hotel?
An Examination of Environmentally Friendly
Practices of the Phuket Hotel Industry

A. Thongkao

2002

MBus (Hospitality Management)

How Green Is Your Hotel?
An Examination of Environmentally Friendly
Practices of the Phuket Hotel Industry

By

Aungkan Thongkao

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Supervisor: Dr. Martin O'Neill

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ABSTRACT

The global hospitality industry is currently facing many challenges from the external business environment. These include the effects of global recession, a downturn in overall trade and an increased demand for service excellence from a much more quality conscious clientele. A more recent challenge, however, relates to an increase in global awareness of environmental issues. Contemporary consumers require goods and services to be produced, or delivered, in environmentally friendly ways. As a result, managers are being forced to reconsider their business strategies and activities. Indeed a wide range of industries has already responded to consumers' dictates on conservation issues. It is now universally accepted that organisations can only achieve their strategic objectives by adopting an environmentally friendly philosophy. The global hotel industry, like any other industry sector, can no longer resist this trend. This study, therefore, shall examine the extent of environmental management practice in the hotel industry, which is one of the major sectors responsible for the development of sustainable tourism. In particular, this study investigated the extent of Green Practice within the Phuket hotel industry, in Thailand. It reports the findings from a two-stage methodology that was designed to shed light on both the current extent of environmental practice within the Phuket hotel industry, as well as the motivation(s) for such practice. Empirical research is reported on a survey of Phuket hotels, with results suggesting that whilst there is evidence of environmentally sensitive practice within the Phuket hotel industry, this is not widespread and rather uncoordinated. The results further suggest low levels of environmental awareness amongst Phuket hoteliers and that where environmentally sensitive practices have been operationalised, this has been due more to the search for bottom line savings than any internalised belief in the value of any such practice.

DECLARATION

"I certify that this thesis does not incorporate, without acknowledgment, any material previously submitted for a degree or diploma in any institution of higher education and that, to the best of my knowledge and belief, it does not contain any material previously published or written by another person except where due reference is made in the text".

Signature..... *A. Thonghao*

Date..... *11 November 2002*

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CHAPTER 1

INTRODUCTION

1.0 INTRODUCTION

It is widely recognised that tourism is one of the world's fastest growing industries. Tourism has been defined as "an environmentally dependent industry with environment and heritage providing the physical basis and drawcard on which the tourism industry and tourist experience is built" (Hall, 1998, p.241). The current growth in this industry can be attributed to the increasing ease and decreasing expense of travelling abroad. For both developed and less developed countries, tourism is fast becoming a billion-dollar business and one of the leading sources of foreign exchange earnings. Moreover, it leads to improved infrastructure and services, as well as the creation of numerous employment opportunities for host countries. A recent survey by the World Tourism Organisation (WTO) showed that 565 million international tourists travelled in 1995. By the year 2000 and 2010, this number is expected to reach 664 million and 937 million respectively, implying a growth rate of 4.1 per cent per annum (WTO, 2000). In terms of income, the world tourism industry generated US \$455 billion in 1999. By the year 2000, the global tourism receipt is projected to reach US \$ 527 billion. About a tenth of global employment is in the tourism industry, which contributes about 10 per cent of the world's GDP (Thailand Development Research Institute, 2000). Theobald (1994) claims that the travel and tourism industry also employs 127 million workers and this figure is expected to double by the year 2005. As a result, many countries have become involved in developing and promoting their tourism industries in order to reap the benefits of national economic development.

Thailand is one of many countries where the tourism industry plays an important role in the economy. The rapid growth of tourism and consequently the growth of the hotel industry has been increasing steadily over the past decade. According to Hall (1994), 5.3 million tourists visited the country in 1990, and this figure was expected to double over the following four years. In 1989, the industry generated US \$3.64 billion, and it was believed that this figure would reach US \$32 billion by the year 2000 (Hall, 1994).

Since the economic degradation of Thailand in 1997, the Thai tourism industry has been seen as the panacea for economic growth and stability. In fact, the tourism industry in Thailand has continued to develop rapidly, in spite of the economic downturn in other areas (Kontogeorgopoulos, 1998). However, numerous problems associated with the environmental, cultural, and biological impact of tourism are unfortunately still increasing (Krueger, 2000).

Snowdon (1995) states that tourism operators in particular cannot afford to ignore the economic imperative of good environmental practice. Tourists are becoming more environmentally aware and are expecting the industry to incorporate environmental best practice in its operations. Moreover, the environment itself is also fragile and sensitive, and needs to be protected for future generations of tourists and tourism operators. Against this background, the purpose of this study is to undertake an exploratory examination of the extent of current environmental practice within the hotel sector in one of Thailand's more popular tourism destinations, Phuket. Hotels constitute an important component of the tourism sector because they satisfy the basic needs of travellers, for example for food, water, and shelter. In turn, the development and growth of most tourism destinations depends on the supply of this basic complimentary product of tourism. Additionally, the study shall also attempt to shed some light on the key motivations driving hospitality professionals to become more environmentally sensitive in their operations.

1.1 BACKGROUND TO THE STUDY

Thailand is "one of the touristically most developed countries in the Third World" (Cohen, 1996). At present, tourism is Thailand's leading source of foreign exchange, and thus plays an unquestionably important role in its economy. According to the United Nations (UN) (2000), the number of international tourist arrivals in Thailand has increased twofold from 3.5 million arrivals in 1987 to 7.2 million arrivals in 1997. Tourism revenue also has increased from 50,024 million Baht in 1987 to 220,754 million Baht in 1997. The number of international tourists visiting Thailand is projected to increase to 11.2 million arrivals in the year 2003. By 1996, Thailand represented the eleventh largest international tourism earner, and was surpassed among Asian states only by Hong Kong and China (Kontogeorgopoulos, 1998).

Nevertheless, Thailand is suffering from many of the more negative aspects of tourism, including the destruction of coral and marine life due to water activities based on tourism, waste dumping by hotels and restaurants, and the uncontrolled construction of tourist facilities on islands such as Koh Samui, Koh Phang Nan, and Phuket (Krueger, 2000). In addition, Li and Zhang (1997) argue that rapid growth without proper control has created a series of obstacles for the future of Thai tourism. Although these problems have led to growing demands for environmental projects, plans and protection, many of these can be seen as 'too little too late' and are, in many cases, overlooked for economic reasons (Krueger, 2000). The United Nations (2000) is supporting constraints to ensure sustainable tourism in Thailand and claims that the current situation has arisen from a lack of environmental awareness and a lack of proper understanding and management of technology with regard to eco-tourism.

Dowling (1998) argues that tourism in Thailand is concentrated in three distinct regions; the mountains in the north, the culture in the centre, and the beaches in the south. Since 1970, tourism development in southern Thailand, for the most part, has been centred on Phuket (Kontogeorgopoulos, 1998), and even today, Phuket still remains a potential mass tourism destination. Phuket Island is located in Dowling's third region and provides access to the beaches bordering the Andaman Sea. It lies 867 kilometres south-southwest of Bangkok. Over the last hundred years Phuket has established its economic importance with the mining of tin and with its rubber plantations. However, nowadays-mining activities have been virtually replaced by tourism. Phuket is now the main destination for tourists travelling to Southeast Asia, and it attracts more than 2 million visitors each year (Wired Destinations, 2000). This volume of tourist arrivals, the busy deep-sea port in Phuket Town and the major international airport have all had an influence that has been both positive and negative on the natural environment.

Tourism and hospitality development in Phuket has fostered great economic and social change for local residents. However, several detrimental patterns of change have also emerged during the past two decades of tourism expansion. Kontogeorgopoulos (1998) claims that the environmental damage caused by

unchecked growth in tourist numbers and accommodation facilities, especially in the hotel sector, has been significant and has placed enormous stress on a number of specific resources, including fresh water, energy usage and land management.

The hotel industry is seen as a major contributor to this environmental damage and stress on local resources. According to Kirk (1996), the hospitality industry is an interesting case with regard to implementing environmental policies. This is because most hotels are situated in areas of outstanding natural beauty, within historic cities and in regions with a delicate ecological balance. Kirk also identified specific areas of environmental concern that involve hotels including: CO₂ emissions, CFC emissions, noise, smoke, odours, the health of staff, waste energy, waste water, waste food, waste disposal, agricultural ecology, purchasing policies, transportation policies, the sale of souvenirs made from endangered species and the location of hotels in fragile locations.

In spite of an International Hotels Environmental Initiative (IHEI) and the Green Globe Program, very few hotels have actually begun initiatives to protect the environment (Kirk, 1996). Brown (1996, p.23) also notes that "the hotel sector is not as yet taking a pro-active approach to environmental concern". In other words, although hotels appreciate and are aware of environmental problems, there is little evidence of environmental management practice. In the case of the Phuket hotel industry, the financial and economic downturn of the country is believed to be another factor that has had an impact on the management of natural resources. Therefore, it is important to take into consideration how these hotels respond to the local and global environment.

Environmental degradation caused by tourism has been attributed to a lack of information and technology, a lack of skills by Thai planners in the field of "recreation management", no recognised authority for the implementation of guidelines, a lack of coordination among government officials and departments, little long term thinking and planning and lack of resources (Li & Zhang, 1997). As a major source of revenue, the tourism industry is very important to Thailand. However, the continued degradation of the environment will, eventually, cause

tourists to choose other more pristine destinations, depriving Thailand of valued tourist dollars. Thus, to maintain tourism into the future, greater efforts must be made to implement environmentally sustainable tourist policies and programs.

Marian (1998) suggests that the most obvious efforts to improve the environmental performance of the tourism industry have been nurtured in the private sector. The hospitality sector has long recognised that its activities consume much more resources compared to other tourism sectors. Traditionally, hotels satisfy their guests with large amounts of resource consumption that is traditionally correlated with good quality service. However, the environmental movement is slowly changing this notion. Recently, many hotels around the world have been adopting environmentally friendly practices and operating in an environmentally sensitive manner. It is widely accepted that hotels have the responsibility to preserve natural resources by using them judiciously and not polluting them.

This study hopes to offer some insight on the issue of environmental responsibility within the Phuket hotel industry. It shall strive to highlight the extent of existing environmentally friendly practices within this sector as well as shed some light on the motivations driving operators to engage in such practice. It is hoped that the study shall also prove useful in helping the Phuket hotel industry establish goals for the future protection of environmental resources, and which coincide with the broader development of Thailand's tourism industry.

1.2 SIGNIFICANCE OF THE STUDY

The tourism industry in Thailand has played a significant role in the economic and social development of the country for the last four decades. At present, the Thai tourism industry is the backbone of the economic growth of the nation, especially in terms of its contribution to income and employment generation, wages, and tax payments (Thailand Development and Research Institute, 2000). Since the growth of Thai tourism has been continuously increasing, the number of tourist arrivals has risen from 5.7 million in 1993 to as many as 7.2 million in 1996, and 9.2 million in 2000. In terms of revenue, the tourist trade generated about 14 per cent of total export earnings and accounted for approximately 49 per cent of total income from

the service sector in 1995. In this same year tourists in Thailand spent a total of 190,765 million Baht. More over, the foreign exchange income from international tourism has been greater than the country's top ranking exports including garments, computer components and equipment, rice, jewellery, and plastic products (Thailand Development and Research Institute, 1997). In 1999, approximately 8.59 million international tourists in Thailand spent 269,772 million Baht. By the year 2000, Thailand's foreign exchange earning from international tourism increased 8.2 per cent, generating 291,773 million Baht (Tourism Authority of Thailand, 2000 b.). Indeed the tourism and hospitality industry in Thailand has experienced remarkable growth when it was successful in promoting the *"Amazing Thailand 1998-1999"* campaign. This campaign, which was launched to celebrate the King's 72nd birthday, was designed to steer the country away from the promotion of mass-market tourism into *"niche markets"* focusing on the travel and tourism variety of the country. More recently, the Tourism Authority of Thailand (TAT) has targeted new opportunities for Thailand to capitalise on its existing infrastructure including the promotion of meetings, incentives, conventions and exhibitions (MICE). These markets have been claimed to generate a high expenditure per head per day, usually more than double that of the average international tourist (TDRI, 1997). Correspondingly, this was designed to cement Thailand's position as one of the leading tourism destinations in Asia.

In the wake of an environmental conscious era, however, operations of any industry have come under increasing scrutiny, with demands for more sustainable management of limited resources. Tourism, as the world's largest economic sector, poses several problems to the global environment. It is true that tourism has often been neglected in spite of the fact that it, perhaps more than any other industry, depends on the natural environment. Often referred to as the real raw material of the tourist industry, it is essential that it be managed in a sustainable fashion. In short, the environment has always played an important role in the development of the modern day tourism phenomenon. In the early phase of tourist development, nature played an important role in attracting tourists. The environment then contributed to the birth and progress of tourism. But without sustainable environmental practices, tourism as a future growth industry will be threatened.

As demand for tourism grows unabated, too much investment is made to accommodate and feed tourists, while too little is spent on protecting the environment. As a result, once pristine and precious tourist resources are lost one after another and these losses are often irreversible. Tourism could have an adverse impact on the environment because of over-crowding, pollution generated by tourists and businesses or encroachment on tourist sites by commercial interests. However, most of these environmental threats can be overcome by visionary planning, the effective implementation of such plans and guidelines or the prudent management of natural resources.

From the above, it may be concluded that:

- (a) Tourism represents an important source of revenue for Thailand;
- (b) Tourism is a growing industry, and further development needs to encourage the sustainability of tourist resources;
- (c) The most challenging task is to reduce the impact that human activities have on the natural environment;
- (d) This requires further research on the precise impact of tourism upon the environment; and
- (e) A greater push to educate all involved including, industry, tourist and the wider community on the sustainable use of environmental resources.

With enormous tourism growth predicted over the next decade, there are increasing needs to understand the nature of tourist demand and supply. It is evident from the literature that the current problems faced by the Thai tourism industry do not relate to the issue of demand, but rather to the supply sector, most notably poor management and or leadership by the Thai government and the broad tourism community. Kontogeorgopoulos (1998) supports the notion that the future success and viability of tourism in Thailand depends on the ability of Thai government planners and tourism industry representatives to balance the perpetual quest for profit maximisation with broader issues of environmental quality and sustainability. In order to gain this success, it is important to understand how tourism and hospitality businesses in Thailand respond to the environmental challenge, and what they are currently doing to protect the environment for better tourism. By focusing

on the experiences of Phuket, Thailand's premier resort destination, this study is significant as it will provide insight into what Phuket hotels do to protect the environment, whether they regard environmental management as an important part of their operational strategy, and how they reconcile differences between conducting a business and developing an environmental ethic. Such would undoubtedly assist in the future tourism development of this region and of Thailand as a desirable tourism destination.

1.3 THE PRIMARY RESEARCH QUESTIONS

As a consequence of the problems described above, this study shall focus on the following research questions:

Primary Research Questions:

Question 1:

What evidence is there of environmentally friendly practice within the Phuket hotel industry?

Question 2:

What is (are) the motivation(s) behind current environmentally friendly practice in the Phuket hotel industry?

Additional General Questions:

- How have hotels in Phuket affected the natural environment?
- How do hotels share local resource consumption?
- What strategies do the hotels have to maintain a clean natural environment?
- What strategies do the hotels have to dispose of rubbish and waste?
- What strategies do the hotels have to preserve water consumption?
- What strategies do the hotels have to limit energy consumption?

1.4 RESEARCH OBJECTIVES

This study shall strive to investigate the extent of current environmentally friendly practice and the motivation behind this practice within the Phuket hotel industry. The study aims to:

- Observe the current application of green practices within the Phuket hotel industry;
- Investigate the motivations behind the adoption of environmentally friendly practices within the Phuket hotel industry;
- Examine the level of environmental awareness within the Phuket hotel industry;
- Identify the environmental management standard of these hotels;
- Investigate the hotels' action and awareness in relation to environmental problems during the recent Thai economic degradation; and
- Develop recommendations for environmental management in Thailand's hotel industry that all types of hotel can apply to their day-to-day management practices.

1.5 DEFINITION OF TERMS

Tourism Industry: A relatively labour intensive service industry that encompasses the worldwide industry of travel, hotel, transport and facilities that serves the needs and wants of tourists. It involves meeting the needs of people who depart their homes or residences to other destinations in the short term or for longer temporary periods.

Sustainable Development: Development that meets the needs of the present without compromising the ability of future generations to meet their own needs (World Commission on Environment and Development, 1987).

Hospitality Industry: The labour-intensive businesses that provide the reception and entertainment of guests, visitors or strangers with liberality and good will (Powers, 1995).

Hotels: A typically multi-story building with its own dining rooms, meeting rooms, and other public spaces with the purpose of providing basic human services to people away from their homes and making them feel as if they are at home.

Environmentally Friendly Hotel: A hotel property that has made a conscious effort to conserve energy, water and other resources and has less of a negative impact on the environment than a typical hotel property.

Environmentally Friendly Practice: An application or operation by a hotel that commits to conservation and preservation by operating in an environmentally sensitive manner.

CHAPTER 2
THE HISTORY OF ECOLOGICALLY
SUSTAINABLE DEVELOPMENT

2.1 THE DEVELOPMENT OF MODERN DAY ENVIRONMENTALISM

Today concern for the environment is at an all time high making national and international news and just about every community and business has implemented changes to their activities in response to environmental concerns. Indeed, recent survey data has revealed three trends in public opinion regarding business activities and the environment:

- Firstly, the proportion of the public expressing concern about environmental quality has arisen dramatically over the last ten years, Dunlap and Scarce (1991).
- Secondly, large sections of the public consider the view that businesses are not sufficiently concerned about environmental problems and issues, Gallop Report (1991).
- Thirdly, increasingly many consumers have decided to reward those companies which they perceive as being concerned about the environment and purchase decisions are now being substantially influenced by the companies overall image and/or reputation on environmental issues, Heger (1990).

This current social purchase of environmentalism differs from earlier environmental concerns and movements in that it has stimulated the concerns not only of consumers but governments, scientists, legislators, businesses and planners as apposed to earlier movements, which were mainly composed of a narrow base of environmental lobbyists and their associated intellectuals. Against this background the objectives of this chapter are twofold:

- Firstly, to attempt to shed some light on the current social purchase of environmentalism by reviewing and analysing the historical backcloth to the changing man - nature relationships. This is essential in order to understand the nature of the forces, movements and events that have influenced and shaped present environmental thinking. More specifically it is intended to focus on the genealogy of modern environmentalism by tracing its development from the Medieval period to modern times.

- Secondly, having established the context within which environmentalism was arisen the chapter will then move on to examine the concept of sustainable economic development and its implications for modern day business (strategic and operational), of which the tourism sector is a key global player.

2.1.1 THE MEDIEVAL VIEW OF THE MAN - NATURE RELATIONSHIP

The universe has been viewed in many different ways over the centuries, yet the question as to whether human kind is equal to nature was initiated by the concept of the "Great Chain of Being" proposed during the medieval period and depicting all universal creatures as interlinked in a great chain. It has been argued that if it were possible for humankind to stand in line with nature, with no superiority over it, there would be a peaceful, non-exploitative future for both. In this case, humans would respect the environment they live in and be part of nature's ecosystem (Ray, 1961).

The alternative interpretation, described by White (1967), supports the Christian belief that sees man in a superior position to the rest of nature. Gosling (1990, cited in Burns & Holden, 1995) supports the view that modern environmental issues come from the Judaic and Christian doctrine in which human beings exploit nature for utility's sake. This is seen in the following scripture:

"... be fruitful and multiply and replenish the earth and subdue it: and have dominion over the fish of the sea, and over the fowl of the air and over every living thing that moveth upon the earth" (Genesis1, verse 28).

2.1.2 THE RISE OF CAPITALISM

Humans depend a great deal on natural resources to survive and prosper. In the past, the renewable and organic resources of nature like wind, water, wood and animal power were the basis of the European economy. The rise of capitalism distinctively changed the natural environment. Forests were destroyed to make way for new industries. Wood was used for ship building and producing charcoal. Goods were produced not only for the basic needs of survival, but also for personal wealth. What were originally cardinal sins, such as greed, envy and pride, were now highly regarded as fundamental for ambition and survival in the modern economy. There is no doubt that the capitalistic commercial revolution has had a strong effect on the society's exploitation of "Mother Earth" (Merchant, 1980).

2.1.3 THE MECHANISTIC VIEW OF THE SCIENTIFIC REVOLUTION

The Scientific Revolution cleared away much of the mythology that had surrounded the perception of nature. Nature and its works were now revealed as having functions and secrets that may prove beneficial to humans. With the use of technological advances in science, humans were able to unlock mysteries of nature and strengthen their domination over Mother Earth, utilising its primary aspects. This Scientific knowledge brought about the notion of restraining and controlling nature. Hypothesis formulation and testing formed the basis of the scientific study of nature to reap its benefits.

These efforts to dominate the environment via science are known as "technological environmentalism". From the time of the scientific revolution, there has been a clear history of humans exploiting nature and its resources.

2.1.4 ENVIRONMENTAL CONCERN ARISING FROM THE INDUSTRIAL REVOLUTION AND THE RISE OF THE ROMANTIC PHILOSOPHY

The demands of the Industrial Revolution and the expanding markets of the 18th century had a substantial negative impact on the natural environment. The effects of urbanisation and human exploitation disrupted the delicate balance between humans and nature.

Immersed in the thirst for economic progress, the value of conserving the natural environment was lost and ignored. It was made clear that a country's economic wellbeing surpassed the importance of conserving the environment. However, despite the exploitation and the insensitivity of humankind, there have always been individuals who have sympathised with Mother Earth. Even Plato described the effects of deforestation and soil erosion on the Mediterranean Island of Attica (Seymour & Girardet, 1986 cited in Harris & Leiper, 1995), which he described as follows:

"...just as happens in small islands, what now remains compared with what then existed is like the skeleton of a sick man, all the fat and soft earth having been wasted away, and only the bare framework of the land being left".

The consequences of negligence towards nature led to new technologies and an ecologically based morality for humankind. People began to see hope in Mother Nature, for example, the naturalist Henry Thoreau (cited in Krutch, 1965) who wrote:

"let man cultivate the moral affections, lead manly independent lives; let them make riches the means and not the end of existence. This curious world which we inhabit is more wonderful than it is convenient; more beautiful than it is useful; it is more to be admired and enjoyed than used".

Thoreau also believed strongly in a harmonious co-existence with nature. He believed that reformists must look at themselves before reforming society. In the mid-nineteenth century, concerns for the environmental quality marked the genesis of an ecological view that humans must be aware of nature's wealth. It was seen not as too late to reduce energy and resource consumption to avoid the effects of pollution and the depletion of natural resources as seen in the twenty first century.

2.2 CONTRADICTIONS IN THE DOMINANT WESTERN ENVIRONMENTAL PARADIGM

In past decades, environmental awareness has not increased consistently. While scientists have been aware of the adverse effects of human activity on the natural environment for several centuries, it was only in the late nineteenth to early twentieth century that public awareness of the human biological relationships began to emerge and brought about the growth of conservation groups and societies.

Since the 1950s, there has been a major paradigm shift in the dominant western societies. Weaver and Oppermann (2000, p.381) define the dominant western environmental paradigm as "the scientific paradigm as applied to environmental and related issues, holding the anthropocentric view that humankind is at the centre of all things, and constitutes the primary focus of reference in all relationships with the natural environment; humans are seen as being superior to nature, which exists only for their benefits".

In addition, evidence from research has shown that economic development that has influenced the natural environment has also caused inconsistency in the world's environmental carrying capacity. The major problems supporting this contention are ozone depletion, deforestation, water and air pollution, the greenhouse effect, litter, acid rain, waste and food contamination.

Weaver and Oppermann (2000) claim that unless solutions are found environmental damage will soon develop to a point of irreversibility and will absolutely affect the quality of human life. One such solution may be human waste converted into food through genetically engineered bacteria. In the field of economics there is also growing criticism of the concept of unlimited economic growth and the assumption that technology can create unlimited new wealth.

McKenna (1999) provides an alternative doctrine adapted from the dominant western environmental paradigm, as shown in Table 1.

Table 1: Two Metaphysical Foundations for Science

Basic assumption	Modern Western science	Alternative world view
Ontological	Separateness: observer versus observed, parts from whole, organism from environment, man from nature, mind from matter, science from religion	Intercommunicating unity: the experience of observing changes the observer, a natural hierarchy of systems, organisms are both the subjects and objects of evolution, consciousness is the inner side of the whole
Epistemological	The sole empirical basis of knowledge is data from our physical senses	We contact reality through physical sense data, and through intuition

Source: McKenna (1999, p.90)

McKenna (1999) provides two critical interpretations of the western environmental paradigm: ontological and epistemological. The ontological is based on separateness in which each natural resource exists for human benefit. The epistemological interpretation of western science claims that the sole empirical basis of knowledge is data from human physical senses. McKenna (1999, p.90) suggests that "the alternative doctrine can lead to human understanding that nature has a right to exist independent of its use for human well-being".

2.3 MODERN DAY ENVIRONMENTALISM TOWARD THE GREEN PARADIGM

In common with the development of many other social trends, there appears to be no specific date for the beginning of the global environmental movement. McCormick (1995) argues that the roots of environmentalism lie in the technological, economic and social changes of the industrial revolution. Since World War II, environmental criticism has risen as a consequence of high profile publications that have shaped the post-World War II environmental movement (Weaver & Oppermann, 2000). The key publications, events and influences that are frequently cited as stimulating these public concerns are discussed below.

2.3.1 INFLUENTIAL PUBLICATIONS

In 1962, Rachel Carson inspired modern concerns with her book "Silent Spring". She suggested that the damage caused to wildlife by pesticides was evidence of a potential threat to human life (Carson, 1962). In 1968, Ehrlich drew attention to the effect on the world's resources of continued population growth in "The Population Bomb"(Ehrlich, 1968). In 1972 the publication of "Limits to Growth" pointed out that the earth's resources and the earth's ability to absorb pollution are finite and it was predicted that population growth and improvements in material living standards would place physical constraints on the environment within a century (Meadows, Randers and Behrens, 1972). In the same year " The Ecologists Blueprint for Survival" (The Ecologist, 1972) followed by "Small is Beautiful" in 1973 (Schumacher, 1973) played a further role in awakening public consciousness. In 1980 the International Union for the Conservation of Nature and Natural Resources (IUCN) produced a World Conservation Strategy that was one of the first reports to introduce the concept of sustainable development (Hall, 1995). However, it was the book called "Our Common Future" better known as "The Brundtland Commission Report" that is considered to be most influential in awakening the world to impending environmental crisis (Schrecker, 1993). This book, which was published in 1987 by the World Commission on Environment and Development, called for the sustainable development of the world economy (WCED, 1987). After this, the momentum for global action in the environmental area led many countries, companies and individuals to attend the June 1992 United Nations Conference on Environment and Development (commonly referred to the Earth Summit). The three primary objectives of this conference were: to address a controversial agenda designed to protect the environment (so called Agenda 21), to foster a framework convention on biological diversity and to foster a framework convention on climate change (Beaumont et al, 1993 cited in Harris & Leipper, 1995). All of these influential publications have been illustrated on Weaver and Oppermann's timeliness shown below in Figure 1.

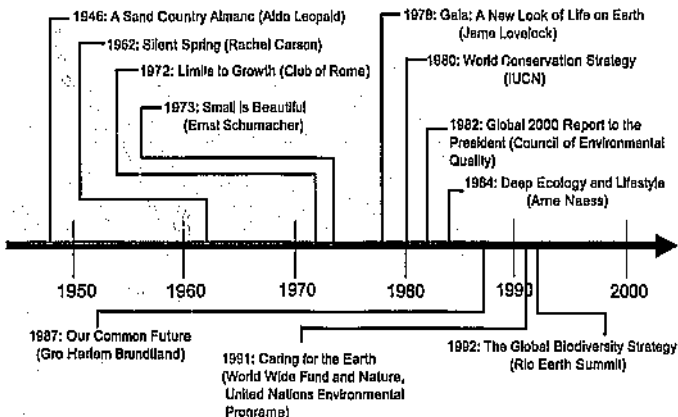


Figure 1: Milestone Publications in the Modern Environmental Movement
 Source: Weaver & Oppermann (2000, p.352)

2.3.2 DIMENSIONS OF ENVIRONMENTAL DEGRADATION CHANGE FROM LOCAL TO GLOBAL

Environmental concerns became internationalized in the 1970s when Europeans noticed that secondary pollutants formed from sulfur and nitrogen oxides were affecting large areas far removed from their source of production (e.g. the problem of acid rain).

According to Caldwell (1991), pictures of the earth from the first landing on the moon in 1969 led people to realize that the characteristics of the earth formed a close system. This appreciation inspired the United Nations Conference on the Human Environment in 1972 with its motto "Only One Earth".

Dunlap (1991) classifies the trends in public concern over environmental quality as follows:

- Concern developed dramatically in the late 1960s and reached a peak with the first Earth Day in 1970;
- Concern declined considerably in early 1970s and then more gradually over the rest of the decade, but it remained substantial;
- Concern in the 1980s saw a significant and steady increase in both public awareness of the seriousness of environmental problems and in support for environmental protection, with the result that by the twentieth anniversary of Earth Day in 1990, public concern for environmental quality reached unprecedented levels.

2.3.3 ENVIRONMENTAL DISASTERS

In parallel with growing environmental actions, there have been a series of catastrophic environmental events that have resulted from human activities and their technologies. These include:

- 1967 oil tanker accidents in Torrey Canyon, England;
- 1976 seepage of chemicals and other wastes into homes and a school playground at Love Canal, USA;
- 1979 nuclear accidents at Three Mile Island, USA;
- 1984 poison gas leak from the Union Carbide pesticide plant in Bhopal, India;
- 1986 Chernobyl nuclear accident, USSR;
- 1989 Exxon-Valdez oil spill in Prince William Sound, Alaska-USA; and
- 1991 Torching of the Kuwait oil fields.

2.3.4 ENVIRONMENTAL LOBBYISTS

Over the last decade, students, leftists, and environmental organizations have taken environmental issues on-board. According to Dunlap (1991), a major force in the globalization of environmental politics in the United State was the growing international concern of non-governmental environmental organizations (NGOs). NGOs have been effective through persuasive argument, lobbying and the use of the

law. They have been informative through their publications and authoritative in that their research is widely used by government, commerce, media and other organizations concerned about the environment.

In 1961 the World Wildlife Fund (WWF) was founded with the purpose of providing a means to raise environmental awareness through corporate sponsorship for conservation and sustainable development programs. The Friends of the Earth was established in 1969 with the role of putting forward solutions to environmental problems (McCormick, 1995) and Green Peace was founded in North America in 1971 and in the United Kingdom in 1977. Green Peace takes part in more direct protests regarding the environment. Its main objective is to ensure that any individual practice, which might otherwise have remained unnoticed, is brought into focus as news headlines.

2.3.5 THE RISE OF GREEN CONSUMERISM AND GREEN POLITICS

Many people in today's society are increasingly concerned about environmental quality. Their perceptions about these issues is often reflected in their purchasing behaviour and their voting and they have had considerable effect on policies and practices that are environmentally friendly.

During the late 1980s the environment became an increasingly important issue in politics such as businesses responded to the green concerns of consumers, democratic governments had to respond to the green concerns of voters. The impact of the green political movement has varied across countries, with Germany, the Scandinavian Countries, America, Australia and New Zealand at the forefront.

A European Union survey (European Business and the Environment, 1992 cited in Derrick, 1995, p.142) has shown a significant increase in public awareness about environmental problems. This survey found that in 1992:

- 85 per cent of Europeans believed that environmental protection was an immediate and vital problem;
- 90 per cent were worried about the increasing number of cars and lorries on the road;

- 94 per cent said they avoided dropping litter;
- 84 per cent said they tried to save energy;
- 83 per cent were sorting household waste for recycling;
- 81 per cent were saving water;
- 73 per cent were making less noise;
- 48 per cent said they would be prepared to go on a holiday that was less harmful to the environment; and
- 30 per cent said they were already members of an association for environmental protection, or were ready to join such an organization.

According to Weaver and Oppermann (2000), these modern environmental concerns have led to a gradual movement of ideas in the west towards the view that humanity must live in harmony with nature if there is to be a viable future for our civilization. From this new worldview a Green Paradigm has emerged. As such, Weaver and Oppermann describe the contrasting characteristics between the dominant western environmental paradigm and the green paradigm as shown in Table 2. Both paradigms are depicted as ideal types, or idealized models against which real life situations can be measured and compared.

Table 2: Contrasting Elements of the Dominant Western Environmental Paradigm and the Green Paradigm as Ideal Types

Dominant Western Environmental Paradigm	Green Paradigm
Humans are apart from nature	Humans are part of nature
Humans are superior to nature	Humans and nature are equal
Reality is objective	Reality is subjective
Reality can be compartmentalized	Reality is integrated and holistic
The future is predictable	The future is unpredictable
The universe has order	The universe is chaotic
The importance of rationality and reason	The importance of intuition
Hierarchical structures	Consensus-based structures
Competitive structures	Cooperative structures
Emphasis on the individual	Emphasis on the communal
Facilitation through capitalism	Facilitation through socialism
Linear progress and growth	Maintenance of a steady state
Use of hard technology	Use of soft technology
Patriarchal and male	Matriarchal and female

Source: Weaver & Oppermann (2000, p.352)

Since the western paradigm has begun to shift to the green paradigm, people have come to realise the impact of their activities, and many international programs concerned with environmental issues have been instigated. With the proliferation of organisations such as the United Nations, the World Health Organisation and the European Commission, the awareness of environmental degradation has spread from academic research to political manifestos and into the public purchasing decisions and the corporate objectives of most companies.

Against this background the concept of sustainable economic development has emerged as an approach, which encapsulates the views of both paradigms, that is, environmental and economic growth should be in parallel progression.

2.4 THE KEY CONCEPT OF SUSTAINABLE DEVELOPMENT

The challenge for modern day society is to develop a sustainable global economy. That is, an economy that the planet is capable of supporting indefinitely. In previous perspective on sustainability and economic development, the concept of sustainability has often been aligned with environmental restraints, slow or no growth, self-sufficiency, small-scale enterprises and waste reduction. These themes are usually antagonistic to economic development. Similarly, perspective on economic development have often focused on quantitative improvements in the economy rather than their negative impact on environmental sustainability.

In recent years, a new view has emerged which requires economic growth to proceed in line with environmental improvement. Consequently, the term sustainable development has been used widely as a guiding principle for all development planning (James, Nefkamp and Opschoor, 1989). Moreover, the recognition of this concept has been seen as one of the great influences in the emergence of the modern day green paradigm (Weaver & Oppermann, 2000).

2.4.1 THE GENERAL CONCEPT OF SUSTAINABLE DEVELOPMENT

The concept of sustainability first came to public attention with the publication of the World Conservation Strategy (WCS) in 1980. When first used in the WCS, however, sustainability was expressed primarily in ecological terms with less concentration on economic development or the interrelationship between economics and the environment (Foley, Lennon and Maxwell, 1997). Jacobs (1995, cited in Wahab & Pigram, 1997) suggests that the concept expresses the idea that humankind must live in harmony with their environmental resources.

Redclift (1987) points out that the term sustainable development requires the combination of ecological and economic processes. The concept of sustainable development was clearly described first in "Our Common Future" or "The Brundtland Commission" which was published by the World Commission on Environment and Development (WCED) in 1987.

The WCED (1987, p.43) has defined sustainable development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs". Bramwell & Lane (1993, cited in Hall, 1998) describe five basic principles of sustainability which were identified in this report including:

- The idea of holistic planning and strategy making;
- The importance of preserving essential ecological processes;
- The need to protect both human heritage and bio-diversity;
- The need to develop in such a way that productivity can be sustained over the long term for future generations; and
- The goal of achieving a better balance of fairness and opportunity between nations.

(Adapted from Hall, 1998, p.21)

Munn (1989) notes that the Brundtland Commission deals with conflicts between economic development and environmental protection by way of sustainable development. The Brundtland Commission has recommended the following strategies on sustainable economic development: reviving growth; changing the quality of growth; meeting essential needs for jobs; energy, water and sanitation, ensuring a sustainable level of population; conserving and enhancing the resource base; reorienting technology and managing risk; and merging environmental and economic decision making.

Hunter (1995) points out that the Brundtland Commission's definition contains two important dimensions. Firstly, human needs, whereby the opportunity to satisfy aspirations for a better life should be extended to all and secondly, limitation, which is the limiting of development to within environmental carrying capacities. Gonzales (1996, p.1) has noted that "this two dimensional perspective pervades growth management literature and has resulted in a continuum of sustainability paradigms ranging from one extreme of economic development at all costs to the other of resource protection at all costs". In addition, Hunter (1995) provides a more complex definition: "Sustainable development is a long-term and global endeavour. A process of change in which the exploitation of resources, the direction of investments, the orientation of technological development, and institutional change are all in harmony and enhance both current and future potential to meet human needs and aspirations".

The 1992 United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro stated that general principles of social, economic and ecological development are necessary to make the development process globally sustainable. Since the Rio Conference, researchers, policy-makers and practitioners in different parts of the world have been trying to work out approaches, appropriate to local conditions, for the implementation of these principles. It has become apparent that much more effort is needed to elaborate the concepts further and to identify the most efficient steps for putting them into practice (Schrecker, 1993).

In addition, Lele (1991) has suggested a close connection between the concept of sustainability and environmental concerns. She believes that, for most people, sustainability refers to the conservation of their environment in order to support their life at some specified level of well being for future generations.

According to Beaumont (1993, cited in Harris & Leiper, 1995) the concept of sustainable development is about not using non-renewable resources faster than renewable substitutes can be found for them; not using renewable resources faster than they can be replenished; and not releasing pollutants faster than the biosphere can process them to be harmless. This view is supported by Rowel (1996) who sees sustainable development as a promised panacea to cure all ecological problems and solve global pollution and thus emphasis should be placed on the economy to use, re-use and recycling.

Although there is no universally accepted definition of sustainable development, it can be said that the basic underlying philosophy is a pattern of social and structured economic transformations, which optimise the economic and societal benefits available in the present, without jeopardising the likely potential for similar benefits in the future. The concept implies using renewable natural resources in a manner that does not eliminate or degrade them, or otherwise diminish their usefulness for future generations. The result of sustainable development is the achievement of continued economic and social development without ruining the existing environment and natural resources (Hunter & Green, 1995).

2.4.2 CONTRADICTIONS OF SUSTAINABLE DEVELOPMENT

Although the concept of sustainable development has achieved prominence and acceptance in recent years and hopefully it will permeate all levels of economic development in the future, a lot of critics have argued that the term is ambiguous (Lele, 1991; Hunter, 1995; Harris & Leiper, 1995; Weaver & Oppermann, 2000). One reason is that the theory is extremely difficult to translate into action when it is subjected to the actual complexities of both the natural and social environment (Weaver & Oppermann, 2000). Harris & Leiper (1995) provide an alternative view

of sustainable development as the dependant relationship between finite resource and economic growth.

Lele (1991) has pointed out contradictions in the concept of sustainable development by focusing on an incomplete understanding of the link between poverty and environmental degradation. This, she claims, constitutes a substantial weakness in current approaches to sustainable development. Moreover, she had related this conceptual vagueness to the role of economic growth and a lack of clarity about what is being sustained. In distinguishing between ecological and social sustainability, she demonstrates the need to avoid confusion between the conservation of natural resources and the sustainability of development. Moreover, she highlights the contribution of participation to sustainable development, which was not given prominence in the discussion of operational concerns of sustainability in the Brundtland Report. However, its importance has been emphasised by many other commendations.

2.4.3 THE DIMENSIONS OF SUSTAINABLE DEVELOPMENT

Farrell (1999, p.189) believes that "a core tenet of sustainable development is the complete integration of economy, society and environment – that is the three-dimensional sustainability trinity".

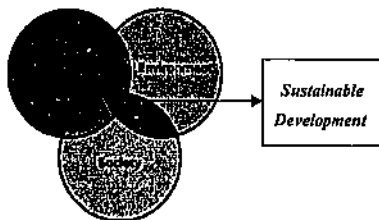


Figure 2: The Three-Dimensional Sustainability Trinity
Source: Adapted from Wight (1998, p.76)

Khan (1995) has attempted to conceptualise the paradigm of sustainable development using the following three issues:

1. Social Sustainability: poverty alleviation

Rutton (1991, cited in Khan, 1995) has argued that there is a close link between social conditions and environmental damage. In this way, poverty functions as a cause of environmental degradation. In other words, the alleviation of poverty is recognised as the key to the preservation of the environment and environmental sustainability because sustained poverty leads to sustain colonisation and exploitation of natural resources. Khan (1995) supports a growth-orientated and an equity-based enabling environment to ensure optimisation in resource allocation and use and equity in resource distribution. These are additional requirements for the alleviation of poverty.

2. Economic Sustainability

Economic sustainability relates to a production process that satisfies the present level of consumption without compromising future needs. Turner, Pearce and Bateman, (1994) espouse social and economic development that must be guaranteed in such a way that there is a decrease in the effects of economic activity whenever the costs are borne by future generations. The Brundtland Commission highlights the essential needs of the world's poor, to which the greatest priority should be given, and states that sustainable development should emphasise the raising of standards of living for the poor whilst avoiding unnecessary costs to future generations.

3. Environmental Sustainability

Environmental sustainability means, "natural capital must be maintained, both as a provider of inputs (sources) and as a 'sink' for wastes" (Khan, 1995, p.65).

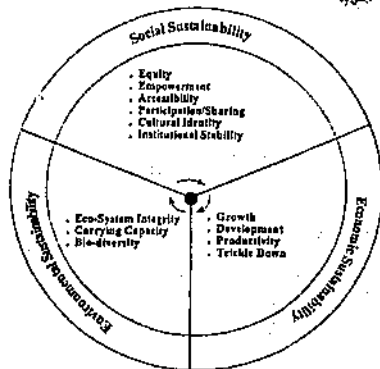


Figure 3: The paradigm of Sustainable Development (Adapted from Khan (1995, p.65).

It has been seen that environmentalism represents a broad spectrum of people and organisations with a strong interest in protecting the natural environment and encouraging greater human concern for that environment. It can be said that environmentalism intends to cause changes in how people relate to the natural environment – that is, changes in people's behaviour and in public policy. Because it also involves people's beliefs and values, there is often a religious dimension to the environmental movement. Other components to the movement include science, education and economics.

Recently, there has been a growing reaction to environmentalism. This reaction has arisen as a response to some beliefs and actions of environmentalists, especially those that have had a perceived or real economic impact on individuals or organisations. The green movement also has a political agenda to restrict the regulatory powers of government and spread environmental awareness globally.

As awareness of environmental issues has spread over the past decade, a growing number of people have realised the impact of their own activities. As such, the sustainable development philosophy has found its way into the balance between environmental quality and economic development. Sustainable development is facing up to the truth that the quest to improve the quality of human life has inherent constraints and that there is a limit to what human population and activity environmental resources can withstand. However, it is essential to recognise that sustainable development is not just an alternative to the impact of human activities but a strategy to pass on to future generations the stock of natural resources no less valuable in quality or quantity than those inherited by the current generation (Hall, 1998).

CHAPTER 3
THE TOURISM AND
ENVIRONMENT RELATIONSHIP

3.1 TOURISM AND ITS RELATIONSHIP WITH THE ENVIRONMENT

The term sustainable development is now increasingly referred to in the wider economic world as a desirable goal to achieve in economic policy. In the business sector some organisations are considering sustainable development as a way of securing their long-term future and also for introducing a higher component of ethical consideration into their operations.

According to Globe (1991), the International Conference and Trade Fair on Sustainable Development Technologies held in Vancouver, addressed the environmental challenges facing 12 industrial sectors including tourism. Throughout the session, it became clear that the challenges of successful tourist development could only be realised within the context of sustainable development strategies, based on integrated and strategic resource use planning. It established that tourism development has an important role to play in both environmental protection and economic development.

Although tourism has not attracted the cries of alarm that have accompanied major oil spills, the depletion of non-renewable resources or the destruction of the ozone layer, criticism directed at tourism has tended to focus on the deterioration of natural and cultural environments that tourism can cause.

Tourism is influenced by many factors relating to social and economic success. An example given by McIntosh, Goeldner and Brent (1995) is that of non-renewable petroleum. Tourism depends heavily on fuel to transport travellers both around the local environment and around the world. Thus, any policies that affect the use of petroleum-based fuels will affect the tourism sector. This leads to the interdependency of tourism with other sectors, so tourism cannot be dealt with in isolation. Once the emphasis on the interdependency of tourism is identified, it then follows that tourism has a major responsibility in contributing to sustainable development.

3.1.1 THE DEFINITION OF TOURISM

Tourism is defined as "an extreme form of recreation which is distinguished by relatively short lengths of stay away from home and relatively large distance travelled" (Britton, 1979 cited in Ward, 1997, p.2). Ryan (1991, p.6) defined tourism as "the means by which people seek psychological benefits that arise from experiencing new places, and new situations that are of a temporary duration, whilst free from the constraints of work, or normal patterns of daily life at home". In addition, Fennell (1999) views tourism as the industrial and commercial activities and the utilised facilities, attractions, transportation and accommodation for tourist consumption.

However, from the review of literature on tourism, it has been found that the term is used broadly to cover the activities of anyone who is on holiday and spending money on accommodation, food and leisure activities and means many different things to many different people. Walker (1996) argues that the hotelier's perception of tourism might be the number of guests who stay in the hotel and use its facilities, while a politician might see tourism as the economic benefit of more money coming to the country.

Most certainly, tourism involves people who are going away from their home or their permanent residence to other destinations for short or temporary periods of time. The purposes of these visits may be leisure, recreation, holidays, to visit friends or relatives, or business. Tourism, therefore, encompasses the worldwide industry of travel, hotels, transport, and the facilities that serve the needs and wants of tourists.

3.1.2 THE CONCEPT OF TOURISM

As a result of these broad definitions, it is difficult to arrive at a precise meaning of tourism. Therefore, it is important to look at tourism conceptually, in order to set the scene for a deeper understanding of tourism.

According to Burkart and Medlik (1982) the concept of tourism was formulated during World War II. The concept was initially put forward by Professors Hunziker and Krapf and was subsequently adopted by the International Association of Scientific Experts in Tourism (AIEST): "Tourism is the sum of the phenomena and relationships arising from the travel and stay of non-residents in so far as they do not lead to permanent residence and are not connected with any earning activity".

Bull (1995, p.1) defines the concept of tourism as "a human activity that consists of human behaviour, resource use, and interaction with other people, economies and environments. It also involves physical movement of tourists to places other than their normal living places".

D' Amore (1985, cited in Hobson & Teaff, 1994) illustrates a three stage evolutionary model of tourism:

- *The First Generation* – On the first level, tourism was viewed as the travel industry. The primary focus is based on the providers of those components such as the hotels, airlines, travel agents, and bus companies.
- *The Second Generation* – The second level views tourism as the clear understanding of the tourist phenomenon in that the various sectors employed in providing services to the traveller were also in the tourism industry.
- *The Third Generation* – On the third level, the tourism phenomenon is viewed as an open system rather than as a separate and self-contained sector. This level of thinking recognises not only the vital importance of collaboration between private and public sectors but also the importance of having linked goals and objectives between sectors directly involved with tourism.

3.1.3 THE CHARACTERISTICS OF TOURISM

Whilst many conflicting definitions of tourism have been offered over the years (Jafari, 1977; Murphy, 1985; Pearce, 1987; Hall, 1998), a number of factors can be identified that can assist researchers dealing with the concept of tourism.

Urry (1990, p.26), for example, has identified some key components of tourism.

- Tourism is a leisure activity;
- Tourism involves the movement of people to, from and within a destination;
- Tourism involves temporary visits to sites outside places of residence or work;
- Tourism places are chosen because of the anticipation of intense pleasure;
- Tourism features landscapes and cityscapes which are separate from everyday and routine experiences;
- Tourism can be captured and endlessly reproduced through photos, postcards, souvenirs, films and other such artefacts;
- Tourists collect mental images and signs of the places they visit; and
- Tourism professionals attempt to reproduce ever-new objects for the tourists' gaze.

3.1.4 TOURISM AND THE ENVIRONMENT

The significance of tourism as a world industry is well recognised. During the last three decades, tourism and its related industries have undergone unprecedented growth and despite the recent world wide economic recession, it is still one of the few sectors that continue to develop and diversify. This rapid growth in tourism has led many countries to experience not only economic change but also social and environmental change. Tourism, because of the nature of its activities, is closely linked with the environment. The environment, whether beautiful coastlines, the countryside, historic towns or sites, picturesque villages, museums, galleries, or national parks, cannot contribute to a successful tourism industry unless protected under guidelines and policies laid down by the managers and planners of the tourist industry.

According to Hall (1998, p.224), tourism is “an environmentally dependent industry” in which facilities and infrastructure alone are not sufficient to attract tourists to a destination. The physical and cultural environments of a destination are usually the main attraction. In addition, the economy of a destination, which depends upon its cultural and physical environment, is another important factor in the relationship between tourism and the environment (Burns & Holden, 1995).

In addition, to enter the tourism business, a destination needs to create a tourist product that will attract visitors and enable the visitors to experience that product. Competition for tourists is intense and increasing, as communities look on this activity as a relatively non-polluting growth industry, which is labour intensive and supportive of local amenities. The central ingredient is the need to offer a quality product. This requires communities to look: a) internally to ensure their basic tourism resources are protected; and b) externally to examine ways of improving the access and travel experience involved in reaching these resources.

Therefore, the core of a quality product is the preservation and conservation of the environment as the real raw material of tourism. The environment, therefore, represents not only all the surroundings of humankind but also encompasses its products and the social, economic and cultural condition that affect people's lives. Tourism South Australia (1989, cited in Hall, 1998, p.225) defines the environment as “the sum total of resources available to human beings, consisting of the physical environment of earth, water and air, the natural environment of landscapes, plants, animals and ecosystems, and the social environments of mankind-past and present”.

Indeed, people might ask what tourism is if not a visit to a new environment. For tourism to take place, an environment is required that is either natural or man-made e.g. what if we go to Paris or New York for a holiday? And that without this environment, it would prove impossible for any touristic activity to happen. As Mathieson & Wall (1982, p.97) state: “In the absence of an attractive environment, there would be little tourism. Ranging from the basic attractions of sun, sea and sand to the undoubted appeal of historic sites and structures, the environment is the foundation of the tourism industry”.

The success of tourism, therefore, is highly dependent on the quality of the physical and cultural environment. It is well established that tourists' travel preferences are strongly influenced by a destination's cultural and natural environment. Therefore, the long-term viability of the industry in any location depends upon maintaining its natural, cultural and historical attractiveness.

3.1.5 THE IMPACT OF TOURISM AND ITS RELATIONSHIP WITH THE ENVIRONMENT

Tourism is reputed to be the world's largest economic sector, and one with a vested interest in the environment and the resource base on which it depends. Since the environment represents a resource and an opportunity for tourism, as well as a potential constraint on the manner of its development, the relationship between tourism and the environment presents as many challenges as it does opportunities.

The history of tourism clearly indicates that the environment has contributed to the birth and progress of tourism. At the most basic level, the environment of the host destination serves as an attraction that tourists want to visit. Tourist behaviour patterns are clearly influenced by the environment when choosing a destination and the length of stay. Also, climatic features and newly discovered or developed natural attractions may influence tourists' loyalty to, substitution of and behaviour in tourist destinations.

Tourism, like any other economic activity, can create a wide-ranging impact on the environment. This impact can be positive or negative:

- **A positive impact:**

A positive impact, for example, provides an incentive for the restoration of ancient monuments and archaeological treasures, for the conservation of natural resources, and for generating the economic means by which this can be achieved.

- **A negative impact:**

A negative impact means people, congestion, noise and litter. It means the disruption of animal life cycles, the extinction of fragile plants, and the pouring of human waste into rivers and onto beaches.

Therefore, there are two divergent views on the environmental effects of tourism. Budowski (1976) has analysed this divergence of views a little further by suggesting that three basic relationships can exist between those who promote tourism and those who advocate environmental conservation. These relationships may be coexistence, symbiosis, or in conflict.

- **Coexistence**

Tourism and conservation can exist in a relationship whereby both camps promote their respective positions, remain in isolation and establish little contact with each other. It is unlikely that such a situation would remain for long due to the various effects associated with growing and uncontrolled mass tourism. This stage, therefore, is usually succeeded by either a symbiotic or conflicting relationship.

- **Symbiosis**

Tourism and conservation may enjoy a mutually supportive or symbiotic relationship where they are organised in such a way that each benefits from the other. National parks provide a classic example whereby the environmental conservationist is happy that features are left as close as possible to their original state, whilst at the same time tourists are able to view and experience them.

- **Conflict**

Tourism and conservation can be in conflict, particularly when tourism induces detrimental effects to the environment.

Hall (1998) suggests that the relationship between tourism and the environment is a mutual reliance and that this relationship changes over time and under other broader influences. Initial work during the 1960s on the perceived impact of tourism, reported by Ap and Crompton (1998), tended to focus on the economic and positive effects of tourism which led to a very optimistic view of the phenomenon. However, in the 1970s, the consequences of tourism were examined more critically by anthropologists and sociologists, which resulted in a more pessimistic view of tourism being formed. During the 1980s and 1990s, a more balanced perspective has developed, where both the positive and negative impacts have been evaluated.

Ap and Crompton (1998, p.3) produced a summary of the perceived positive and negative impact on the three categories of economic, physical and social as shown in Table 3.

Table 3: Positive and Negative Economic-Environmental and Social Impact of Tourism

Category	The perceived impacts of tourism
1. Economic category 1.1 Positive economic impacts	<ul style="list-style-type: none"> • Contributes to income and standard of living • Improves the local economy • Increases employment opportunities • Improves investment, development, and infrastructure spending in the economy • Increases tax revenues • Improves public utilities infrastructure • Improves transport infrastructure • Improves opportunities for shopping
1.2 Negative economic impacts	<ul style="list-style-type: none"> • Increased prices and shortage of goods and services • Increased prices of land and housing • Increased costs of living/property taxes
2. Environmental category 2.1 Positive environmental impacts	<ul style="list-style-type: none"> • Preservation of the natural environment/ does not cause ecological decline • Preservation of historic buildings and monuments • Improvement of an area's general appearance
2.2 Negative environmental impacts	<ul style="list-style-type: none"> • Increased traffic congestion • Over crowding • Increased noise, air pollution and litter • Overuse of water resources and the discharge of untreated waste water into rivers or coastal areas
3. Social and cultural category 3.1 Positive social & cultural impacts	<ul style="list-style-type: none"> • Improves the quality of life • Increases availability of recreation facilities/opportunities • Improves quality of fire protection • Improves quality of police protection • Improves understandings and images of different communities or cultures • Promotes cultural exchanges • Facilitates meeting visitors (an educational experience) • Preserves cultural identity of host population • Increases demand for historical and cultural exhibits
3.2 Negative social & cultural impacts	<ul style="list-style-type: none"> • Increased prostitution • Increased alcoholism • Increased smuggling • Heightened tension • Increasingly hectic community and personal life • Creation of a phoney folk culture

Source: Adapted from Ap & Crompton (1998).

3.2 DEVELOPMENT FROM MASS TOURISM TO ALTERNATIVE FORMS OF TOURISM AND THE CONCEPT OF SUSTAINABLE TOURISM DEVELOPMENT

3.2.1 THE DEVELOPMENT OF MASS TOURISM

The demand for tourism has been increasing dramatically since the end of the second World War and can be attributed to advances in technology, the rapid development of transportation modes, longer life spans, improved health and life expectancy, increased leisure time and disposable income levels. Indeed, during the period from 1950 to the present day, tourism has become the world's biggest industry. Often referred to as mass tourism, this form of tourism activity is typified by large numbers of people travelling as part of some form of all-inclusive tour. According to Poon (1993, p.57), "international tourism displayed nearly all the characteristics of its manufacturing counterpart, it was mass, standardised and rigidly packaged. By the mid 1970s, tourism was being produced along assembly-line principles, similar to the automobile industry. With tourists consuming travel and leisure services in a similar robot-like and routine manner".

Medlik (1993, p.98) defines mass tourism as "participation in tourism in large numbers, a general characteristic of developed countries in the second half of the twentieth century, in contrast to earlier times and to the situation in developing countries, as well as to limited participation of people in such activities as mountain trekking or sailing". In other words, mass tourism is characterised by large numbers of people seeking a package holiday with little cultural or environmental interaction in authentic settings.

Poon (1993), in her work "Tourism Technology and Competitive Strategies", illustrates the key characteristics of mass tourism in the following conditions:

- The holiday is standardised, rigidly packaged and inflexible.
- The holiday is produced through the mass replication of identical units, with scale economies as the driving force.
- The holiday is mass marketed to an undifferentiated clientele.

- The holiday is consumed en masse, with a lack of consideration by the tourist for local norms, culture, people or the environments of tourist-receiving destinations.

Nowadays, it is accepted that mass tourism plays a significant role by generating more income and generating more work for tourism receiving countries. Therefore, it is welcomed by business communities and governments alike, in both developed and developing countries. That said, recent years have witnessed the emergence of contradictory trends concerning mass tourism, with consumers now realising that there is in fact another side to the tourism phenomenon. As Hawkins (1982, piii) puts it: "tourism is a goose that not only lays a golden egg, but also fouls its own nest" Fennell (1999) views mass tourism as a beast. He claims that most mass tourism businesses are owned by non-local people, and generate little money to local communities. Moreover, they use non-local food, non-local products and encourage non-interaction with the host community or host culture. The ecological and environmental impact of mass tourism have been listed by France (1997) as follows: the energy costs of transport; the loss of aesthetic value; noise; air pollution; water pollution and the generation of waste; the disruption of animal breeding patterns and habits; deforestation; loss of vegetation through the collection of flowers and bulbs; the destruction of beaches, dunes, coral reefs and wilderness areas through trampling and the use of vehicles; and the change of landscape from the seasonal effects of varying population densities and structures.

Fortunately, however, a new view of mass tourism is developing which has meant that "mass tourism has been abandoned and the tourism industry is reacting accordingly, to meet the needs of the individual tourist (Smiliva, 1995, p. 119).

3.2.2 TOWARD A NEW FORM OF TOURISM INDUSTRY

As a result of the ill effects of mass tourism, people have realised the importance of the concept of sustainable development, which has lead to the term "alternative tourism". Alternative tourism is a form of tourism that advocates an approach opposite to conventional mass tourism. It is defined as "a form of tourism, which seeks to avoid adverse and enhance positive social, cultural and environmental

impacts. It is usually characterised by: small scale, slow, controlled and regulated development; as well as emphasis on travel as experience of host cultures and on maintenance of traditional values and societies" (Medlik, 1993, p.10). Smiliva (1995, p.119) notes that "alternative tourism planning is flexible. It is unpredictable and takes into account the interest in new destinations, as well as adventure, individual tests, health care, and enriching spiritual experiences". Alternative tourism, therefore, offers fewer visitors more destinations and accords with the concepts of protecting nature and supporting interaction between visitors, nature and local communities.

It is clear that the concept of alternative tourism has emerged as a result of an increased awareness of the effects and damage from mass tourism. Unlike traditional mass tourism, which is a form of tourism where tourists concern themselves solely with the quality of the man made environment, tourists engaged in alternative forms of tourism share equal concern for the quality of the natural environment within which the tourism product and/or experience is offered. Alternative tourism focuses on small-scale tourists with low impact to the environment and local community, slow, controlled and sustainable development, and local benefits. Butler (1990) argues that the reason for adopting alternative forms of tourism is that alternative tourism provides a more positive impact on the host environment. Alternative tourism is realised in variants such as nature tourism, which involves travel and adventure within the natural environment; cultural tourism, which focuses on history, heritage, ancient places and/or the religions of host communities; and event tourism, that combines travel with a variety of festivals and sporting competitions.

Although there are various forms of alternative tourism, there is no apparent agreed acceptance on its definitions and conceptual and practical boundaries (Mowforth & Munt, 1998). Therefore, this study presents an opportunity to place greater emphasis on the concept of alternative forms of tourism, that is, the idea of sustainable tourism development.

3.2.3 THE CONCEPT OF SUSTAINABLE TOURISM DEVELOPMENT

Tourism can put stress on environments because it consumes substantial amounts of energy, goods and resources. Thus, the tourist industry plays a significant role either in the maintenance and improvement of particularly sensitive environments or in their degradation and decline. With the world growth in tourism, not only are more people using the environment for tourism, they are travelling greater distances and impacting upon a greater number of areas for longer periods. This expansion presents a whole range of additional environmental benefits and problems for those involved in developing tourism policy.

Recently, the growing awareness of sustainable development within industry, together with the international debates resulting from the Brundtland Commission and the Earth Summit in Rio de Janeiro, has led to the notion of sustainable tourism development. According to Hunter and Green (1995), sustainable tourism development arose from the search for better ways to integrate the demands of tourism development with environmental protection. This claim is based upon the following inter-related factors:

- The direct and indirect reliance of tourism on a wide range of environmental factors;
- A heightened awareness of environmental issues and problems over the last three decades; and
- The rapid growth of tourism activity combined with an increasing awareness of the frequently negative impact of tourism on environmental quality.

Tourism Canada (1990, cited in Murphy, 1994, p.279) defines sustainable tourism development as "leading to management of all resources in such a way that we can fulfil economic, social, and aesthetic needs while maintaining cultural integrity, essential ecological processes, biological diversity and life support systems".

Medlik (1993, p.141) suggests "sustainable tourism development may be viewed in terms of the Brundtland Report as that which is consistent with future generations' general as well as present generations' specific needs". In other words, it is a concern about the adverse impact of unorganised and unplanned tourism on the physical and socio-cultural environments of tourist destinations.

Cater and Goodall (1992) state that sustainable tourism depends on:

- Meeting the needs of the host population in terms of improved standards of living in the short and long term;
- Satisfying the demands of increasing tourist numbers and continuing to attract them to achieve this; and
- Safe guarding the environment to achieve the two foregoing aims.

Cronin (1990), in her work "A Strategy for Tourism and Sustainable Development", lists objectives within which tourism development must be carried out to be compatible with the principles of sustainable development. She states that sustainable tourism must follow ethical principles that respect the culture and environment of the host area, the economy and traditional way of life, the indigenous behaviour, and the leadership and political patterns. Thus, it must:

- Involve the local population, proceed only with their approval and provide for a degree of local control;
- Be undertaken with equity in mind, ie with the idea of access to a fair distribution of benefits and costs among tourism promoters and host people and areas, not only now but in the future;
- Be planned and managed with regard for the protection of the natural environment for future generations;
- Be planned in an integrated manner with other economic sectors; and
- Be assessed on an on-going basis to evaluate impacts and pursue action to counter any negative effects.

(Adapted from Cronin, 1990)

Weaver and Oppermann (2000) also suggest that the concept of sustainable tourism development should take into account the sustainability of tourism as well as the local community. Sustainable tourism, in order to achieve this goal, must consider the following; 1) how tourists value and use natural environments; 2) how communities are enhanced through tourism; 3) how to identify tourism's social and ecological impacts; and 4) how to manage these impacts (Fennell, 1999).

3.2.4 THE CONCEPT OF CARRYING CAPACITY

The concept of carrying capacity is closely related to the idea of sustainable development. In ecological terms, it is the maximum number of any species that the place or site can hold appropriately for that environment (Dijkman, 1999; Hart, 1997 & Rangarajan, 1998). Furthermore, the concept is comprised of the following four interrelated elements:

- The amount of resources each individual is consuming;
- The ability of the environment to accept that uses;
- The duration of using the environmental resources; and
- The suitable balance of the manipulation and exploitation of resources.

(Adapted from Fennell, 1999)

The term carrying capacity, when applied in a tourism study, refers to "the amount of tourism activity (e.g. Number of visitors, amount of development) that can be accommodated without incurring serious harm to a destination; distinctions can be made between social, cultural and environmental carrying capacity" (Weaver & Oppermann, 2000, p.309). Stoddard et al. (1975, cited in Dijkman, 1999) point out that the carrying capacity concept is used as a planning and management tool for proposed development and is designed to ensure the continued sustainable exploitation of ecosystems.

The tourism industry can benefit from the application of carrying capacity as a management approach for preventing problems arising from tourist activity. However, carrying capacity does not have one consistent meaning, rather it is a range of tolerance levels (Hawaii Tourism Authority, 1996). This is because carrying capacity is determined by many interrelated factors. It can vary according to season,

time and may entail factors such as tourists' behavioural patterns, facility design management, the dynamic character of the environment and changing attitudes of the host community (Hawaii tourism Authority, 1996).

According to Manning and Dougherty (1995), the determination of carrying capacities for tourism and the evaluation of the importance of differing resources involve addressing the following obstacles:

- Tourism depends on many attributes of an environment, such as cleanliness, presence and diversity of wildlife, access to shoreline, abundance of wildflowers, and ability to support various activities; each attribute responds in its own way to different levels of use.
- The impact of human activity on an environment may be gradual, and may affect various parts of the system at differing rates.
- The sensitivity of an environment depends in part on the linkages between that environment and others.

(Adapted from Manning & Dougherty, 1995)

In short, carrying capacity is fundamental to environmental protection and sustainable development. However, its limits can sometimes be difficult to quantify, but the concept is essential to environmental planning for tourism and recreation.

3.2.5 ENVIRONMENTAL ACTION FOR SUSTAINABLE TOURISM DEVELOPMENT

According to Weaver (1998, p.6), "although the tourism industry's recognition of sustainable development has been somewhat belated compared with other sectors, tourism related companies do seem to be more aware that consumer interest in "green issues" is not just a passing fad and that responsible environmental and social practices also make good business sense". In addition, the term "sustainable development" has become a central issue since the recognition of the threats to the environment of unregulated economic growth over the last century (Meagher, 1991). Many conferences, studies and institutions have dealt with the topic of tourism and sustainability. A number of principles for the implementation of sustainable development in tourism have been developed or adapted and published.

In 1989, Western Australia became the first Australian state to publish a set of environmental guidelines for tourism development (Dowling, 1991). Two environmental consultants drew up the guidelines for the WA Tourism Commission and the Environmental Protection Authority (EPA). The first document entitled "The Eco Ethics of Tourism Development" was prepared by Brian O'Brien and presents an ethical and philosophical statement on the fundamental interrelationship that exists between tourism and the environment. The second document is an administrative guide, which outlines the procedures required to gain environmental approvals for tourist development (WATC/EPA 1989, cited in Dowling, 1991).

In addition, the need for sustainable tourism has been acknowledged at the international level. Agenda 21 is a global action plan endorsed by the 1992 Rio Earth Summit. It focuses on the legal framework and management practice to improve pricing and subsidies for tourism. Stancliffe (1995 cited in Mowforth & Munt, 1998) explains that Agenda 21 impinges on tourism in two ways. First, tourism is specifically mentioned as offering sustainable development potential to certain communities, particularly in fragile environments. Second, tourism will be affected by Agenda 21's program of action because the legal frameworks, policies and management practices under which it operates may alter its many environmental impacts.

Consecutively, the tourism industry has also been moving in the direction of ethical principles. Governments, associations, and tour operators have drafted a number of policies, codes, or principles oriented towards natural or cultural resources in order to promote environmental management among hotel and travel companies. This includes the Code of Environmental Practice produced by the Australian Tourism Industry Association (ATIA, 1990); Green Flag International, established by the industry in the late 1980s; and Green Globe, established in 1992 by the World Travel and Tourism Council (Weaver, 1998). In 1992, *Beyond the Green Horizon* was published by the Tourism Concern and World Wildlife Fund (Foley et al, 1997). Moreover, the World Travel and Tourism Council launched its environmental guidelines in 1993. These also recommend that companies and governments take the guidelines into account in policy formulation (Weaver, 1998).

A study from the World Travel and Tourism Environmental Review (WTTERC, 1993) has claimed that environmental issues will become much more prominent in influencing consumers, regulators, pressure groups and destinations. The tourism industry, therefore, will need to show increasing concern for these issues. The report suggests that this can be achieved by:

- Developing clear policy and mission statements on the environment;
- Establishing targets which can be assessed, and which cover waste management, energy, emissions, hazardous materials, water, noise, purchase of materials and transport;
- Disseminating environmental awareness throughout the company;
- Encouraging education and research into improving environmental programs; and
- Putting an emphasis on self-regulation but recognising the need for national and international regulation.

Cater and Lowman (1994, p.52), however, suggest that "tourism codes have tended to be focused on either the biophysical; such as National Audubon Society; or the cultural resources such as the Ecumenical Coalition on Third World Tourism". Many have tended to mix codes of ethics (more general and value-based) with codes of practice (more specific guidelines). They also claim that most codes of ethics have been developed only for the traveller, but all players in the tourism industry including the industry, host communities, governments and non-governments need to share the responsibility for ethical activity.

Stabler and Goodall (1997) outline environmental action in the context of sustainable development as shown in Figure 4.

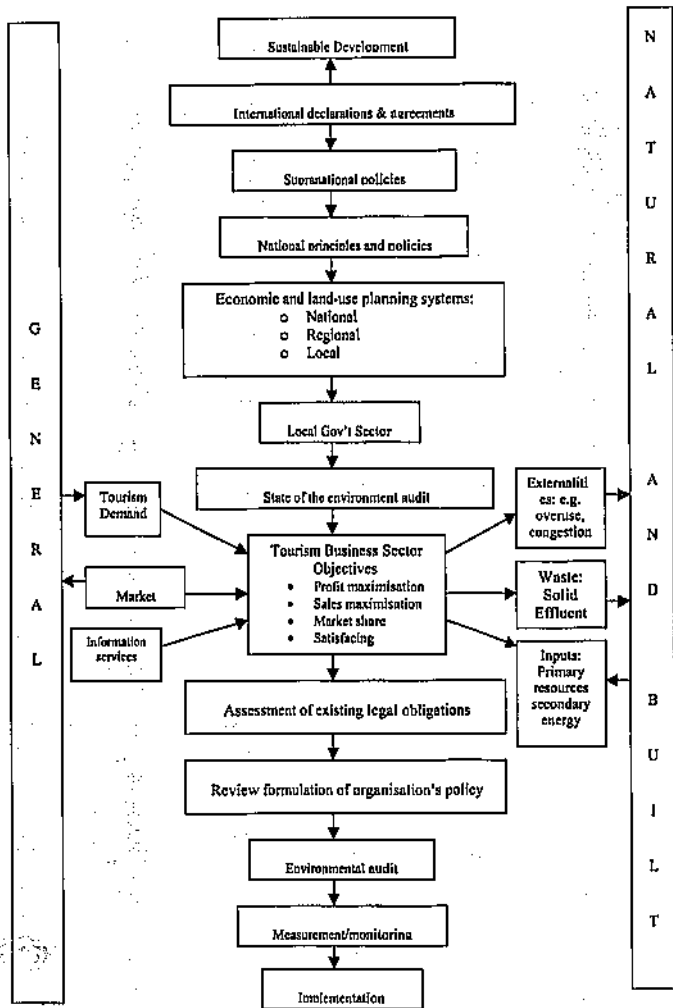


Figure 4: Environmental Action in the Context of Sustainable Development

Figure 4 illustrates how the contribution of tourism to sustainability is situated in the wider economic, political and social context, and also shows the key elements of any action taken. However, Stabler and Goodall (1997) accept that, although the figure outlines the procedures and sequences that businesses might need to adopt, it does not indicate the principles that should guide action nor does it suggest their nature.

Obviously, the tourism industry runs the risk of spoiling the natural environment. It is generally acknowledged that the tourism industry cannot exist without conservation and sustainability. Therefore, management of environmental issues has become central to tourism planning in all destinations.

3.3 THE GREENING OF TOURISM AND THE APPLICABILITY OF BEST PRACTICE WITHIN THE HOTEL INDUSTRY

3.3.1 TOURISM AND ITS RELATIONSHIP WITH THE HOSPITALITY INDUSTRY

Tourism today has grown significantly in both economic and social terms. Hospitality management and recreation management are the two main fields that deal with aspects of the tourism industry (Hobson & Teaff, 1994). In order to get a clear understanding of the hospitality sector, it is necessary to consider its historical development.

From a marketing perspective, the tourism industry consists of two fundamental components: demand and supply. The demand component is comprised of the motivations, perceptions, previous experiences and expectations of the tourist. (Hall, 1998). Hall argues that many tourist researchers focus on the demand side of the tourism system especially for commercial purposes; for example the characteristics of the consumer or market share. Recently however, a new view has emerged that proposes that tourism development be long-term or sustainable in nature and this suggests that more attention should be paid to the supply side of the tourism equation.

The supply side has always been provided by both private and public sectors. It is comprised of natural resources, infrastructure and superstructure. In terms of a generating impact upon a destination's environment, accommodation is seen as one of the most critical hospitality sectors on the supply side of the tourism system (Young, 1973 cited in Hall, 1998). The accommodation sector both determines and is determined by tourists' demand. It includes not only luxury hotels and resorts, but also a variety of lodging suppliers such as backpacker and youth hostel establishments, camping and caravan parks, and home-stay or farm-stay establishments.

The increasing growth of tourism has led to a growth in the hotel industry. With 664 million tourist arrivals globally in 1999, the need for accommodation has increased vastly. This growth of the industry has brought numerous benefits but it has also generated negative consequences for the environment. Hobson and Teaff (1994) argue that the hospitality sector, if properly managed, is able to contribute quite significantly to both regional and national economies in the following manner:

- It can give the destination a greater geographic spread of markets;
- Increase the length of visitor stay;
- Maximise the direct expenditure of guests in the destination being visited;
- Increase employment in the destination being visited; and
- Help reduce the cost of services to local communities.

Therefore, the accommodation sector has a potentially high impact on the types of tourists that are attracted to the host destination, the length of their stay and the economic flow-on of tourism to the local community in the form of employment and income (Hall, 1998).

3.3.2 ENVIRONMENTAL IMPACT OF THE HOTEL INDUSTRY

Generally, the impact of hotel development is similar to other sectors associated with the tourism industry. To put it simply, therefore, the impact can be classified as either short-term or long-term.

- **Short - Term Impact:** The short-term impact of the hotel industry can be recognized as all activities during the property construction. Activities include overall construction and residuals, or waste disposal from these activities. During the construction, a large amount of labor is necessary, and workers must be brought in and housed. However, an influx of laborers has the potential to introduce new diseases and different and conflicting morals, lifestyles and standards of sanitation. Frequently these activities have resulted in the creation of urban slums. The increase in population may also lead to additional demand on infrastructure and services. Temporary housing structures and roads could also lead to erosion problems. The arrival of immigrant labor also has a negative impact on natural resources (Mander, 1998).
- **Long - Term Impact:** Typically, the main characteristic of the hotel industry is its day-to-day, twenty-four-hour operational business cycle. The scope of a hotel's operations is broad and diverse. However, the broad purpose of these activities revolves around providing basic human needs to people away from their homes. Since the hotels consume large amounts of water, energy and natural resources to service their guests, serious deterioration can occur in either the physical or social environment. Mander (1998), for example, points out that air emission from boiler stacks poses air pollution problems, while food waste and other organic waste results in odour problems.

3.3.3 THE HOSPITALITY INDUSTRY TURNS GREEN

Since the 1980s and the 1990s, environmental consciousness has been growing significantly and it is not surprising that the impact of tourism and hospitality on a fragile ecology is becoming a major concern. Initially environmental pressure has mainly focused on a wide range of those industries that cause direct pollution to the environment. However, Kirk (1996) views the hospitality industry as made up of a large number of small operations, consuming small amounts of energy and other resources which when combined together indicate a substantial impact on natural resources. Despite with this observation, hospitality is a sector of the travel and tourism industry that is believed to have responsibility to the preservation of the environment.

As tourism is already the world's largest industry, the health of tourism as an economic activity can be directly linked to the health of the environment. Lodging is an important segment of this growing industry. It provides tremendous diversity and stability to the destination's economy. This sector of the economy, moreover, is dependent upon a clean and scenic environment. Kirk (1996) ascribes this dependence to two main reasons. Firstly, many hotels are situated in areas of outstanding natural beauty, in historic cities and in areas with a delicate ecological balance. Secondly, many customers who seek hospitality services in these environments do so expecting facilities and amenities such as hot water, high pressure showers, freshly laundered linen, an ample supply of towels, copious supplies of food and drink, the availability of swimming pools, saunas and transportation. Ironically, the supply of many of these facilities is detrimental to the environment in which they are demanded.

Concern for the environment has become an increasingly important factor in the whole tourism business. The hotel industry needs to take some clear steps toward making its segment of the tourism industry more environmentally friendly. Globally, hotels are increasingly recognising the need for using energy and other resources responsibly and controlling consumption by adopting environmentally sensitive policies and practices. These activities can be seen as market strategies but nonetheless they also reflect industry concern.

3.3.4 WHAT IS AN ENVIRONMENTALLY FRIENDLY HOTEL?

According to Iwanowski and Rushmore (1994) the idea of the green hotel and resort is at odds with the industry perspective that provides its consumers with opulence, luxury and grandeur. Thus, there is a demand for standards and services to remain unchanged at the same time as demand for sensitivity to the environment among lodging operators.

Moffitt and Engeldrum (1997, p.1) describe an environmentally friendly hotel as "the hotel that has made a commitment to conservation and preservation by operating in an environmentally sensitive manner". Most environmentally friendly policies and practices are based on the scope of energy and waste management, water conservation and purchasing (Ayala, 1995; Checkley, 1993; Iwanowski & Rushmore, 1994; Moffitt & Engeldrum, 1997 & Withiam, 1993). In addition, some practices depend upon the direct cooperation of customers. Most policies, however, are based on the concept of the three Rs -- reduce, reuse and recycle (Hart, 1993). Therefore, an environmentally friendly hotel is a hotel property that has made a conscious effort to conserve energy, water and other resources. The environmentally friendly hotel, with these measures in place, has less of a negative impact on the environment than a typical property.

Recently, there have been arguments from numerous consumer and environmental groups to address the need for an increased supply of environmentally friendly or green hotels. It has been found that, although more and more consumers consider environmental criteria in their purchasing decisions, their choices are limited in the United States, as the U.S. lodging industry has failed to capitalise on this potential market (Conner, 2000).

3.3.5 WHY IS THE HOTEL INDUSTRY IMPLEMENTING ENVIRONMENTALLY FRIENDLY PRACTICES?

According to Hart (1997) the environmental challenge in business is motivated by the notion of a global sustainable economy. Although developed economies may be trying to implement ecological recovery programs, on a global scale the planet is unable to sustain itself. Hart also identifies a continuum of environmental development that starts with pollution prevention, working through product stewardship and clean technology towards making a positive contribution to sustainability.

In recent years, many hotels have had to respond to the global demand for a sustainable economy. Some have initiated token measures, while others have introduced comprehensive programs to tackle a whole range of environmental issues. A recent survey by the U.S. Travel Data Centre found that 70 percent of consumers say that they are willing to support green travel companies and likely to stay in a hotel that implements green practices. An estimated 74 percent of the survey sample said they were environmentally minded consumers while the other 54 percent called themselves environmentally minded travellers and about 28 percent of these groups were prepared to pay between \$5 and \$10 per day extra for stay in environmentally friendly rooms (Watkins, 1994).

Porter and van der Linde (1984 cited in Stipanuk & Ninemeir, 1994, p.78) suggest that "hotel managers must start to recognise environmental improvement as an economic and competitive opportunity and not as an annoying cost or an inevitable threat. Instead of clinging to a perspective focused on regulatory compliance companies need to ask questions such as why are we wasting, and how can we enhance customer value". This statement also shows that it is essential for hotels to adopt environmental friendly practices.

Iwanowski and Rushmore (1994, p.35) question why businesses concern themselves with environmental issues and conclude that, "it makes good business sense in that business will ultimately increase profits corporate citizen". MacKinnon (1996)

argues that hotels that create a positive approach toward the environment also foster an environmentally friendly ethic amongst employees.

Enz and Siquaw (1999) claim that this environmentally friendly trend within the hotel industry will be the way of the future for the following reasons. Firstly, some operators believe that operating in an environmental friendly manner is the right thing to do. Secondly, others will do so because of increasing government regulation. Finally, many businesses will find that there is an opportunity to respond to the increasing green consumers.

These days, most conservation efforts focus on three areas including energy, water and waste management as seem to have greatest potential impact on both the environment and a hotel's bottom line (Rowe, 1999). Barry Dimson, the president of EcoSmart Healthy Properties Philadelphia, supports that "economics will drive more people to build environmentally friendly hotels. Otherwise, the concept will not take off" (Conlin, 2000). According to Moffitt and Engeldrum (1997), the hotel that implements an environmentally friendly program does not negatively impact on the guest experience; it actually reduces operating costs, increases the marketing opportunities that aim to attract untapped revenue streams, and it improves employee morale.

Font and Tribe (2001) support the idea that adopting an environmentally friendly approach within the hotel industry can be beneficial to these organisations in numerous ways. Firstly, it improves relations with the public sector, non-profit organisations, trading partners and company employees and it results in financial benefits. Secondly, being an environmentally friendly hotel can mean gaining a corporate advantage through enhanced image. Finally, there is a wide array of financial benefits arising from good environmental practices including improved access to public funds, higher selling prices and cost savings.

It is obviously that finding ways to reduce water, resources and energy by implementing environmental strategies means a hotel can benefit from less expenditure. These are the tactics that will result in significant cost savings and lead

to greater revenue because real revenue not only comes from cutting operating costs, but also from generating repeat customers and finally by creating customer loyalty (Glanzrock, 1995).

3.3.6 KEY PRACTICE ISSUES ENCOMPASSING WASTE MINIMISATION, WATER CONSERVATION, ENERGY EFFICIENCY, RECYCLING AND PURCHASING

Most hotels and motels provide recreational facilities, such as pools, game rooms and fitness and health centres for their guests. A hotel's recreational areas can also have a significant effect upon its environmental impact. For example, a fitness centre consumes a large amount of energy (electricity), a swimming pool needs much water, and the air ventilation system can affect indoor air quality of the recreational areas.

In an effort to make their properties more environmentally friendly, hotel owners and operators need to run their operations in the 'green way'. Environmental initiative is not simply a matter of green rooms. It involves recycling, source management, environmentally sensitive purchasing, indoor air quality, energy management, water management, chemical usage and land management. Furthermore, environmentally friendly actions do not necessarily mean the use of sophisticated technology or high expenditure. For example, in some cases, simple inexpensive options are the most effective for the business. However, there must be a commitment by management and staff towards reducing the harmful environmental impact of energy, water, solid waste, and purchasing (International Hotel Association, 1995). To examine these practices more closely, it is necessary to discuss the four main issues of environmental best practice: (1) energy management, (2) water conservation, (3) solid-waste management and (4) environmental product purchasing.

- **Energy Conservation**

For most hotels, engineering operation and maintenance and energy costs (POMEC) are the second biggest expense next to labour costs. Every seven cents of each revenue dollar (US) is spent on the energy bill (Weenink, 1994). The unprecedented rise in oil costs in the early 1970s, together with the continued increase of energy

costs during the 1970s, 1980s and 1990s, has meant that hotel companies have had to adopt policies and practices for the management of energy. The main purpose of energy management is to ensure that both energy costs and utilisation are low whilst maintaining the standard of comfort and service and productivity (Kirk, 1996). Rowe (1999) states that energy management, which saves money and the environment, consists of three components: information (about the building and system), knowledge (about who is using the energy) and control (about when and how much energy is used).

A survey done by the Energy Efficiency Office (EEO) in London shows that hotels spend approximately £300 million on energy bills per year (EEO, 1993). Figure 5 below shows the areas where the costs arise whereas Figure 6 shows the areas where the energy is utilised.

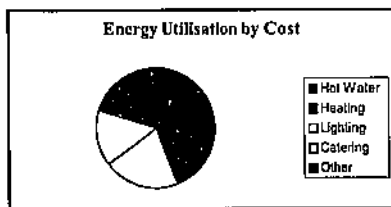


Figure 5: Energy Utilisation by Cost
Source: EEO (1993)

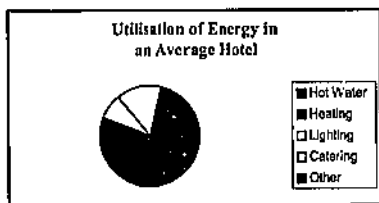


Figure 6: Utilisation of Energy in an Average Hotel
Source: EEO (1993)

The EEO (1993) notes that energy consumption by hotels depends on the type of hotel, size, method of construction, climate and location. The majority of energy consumed in hotels is through the use of electricity, which accounts for 69 per cent, and 18 per cent through fossil fuel whilst the remaining 13 per cent come from other sources. Although the use of energy is vital, it is one of the largest controllable outgoing in running hotels. By using simple and cost effective measures, fuel bills can be reduced by almost 20 per cent and at the same time enhance the environment for guests and staff. Therefore, efficiently run buildings also require: less manpower to service complaints, providing additional savings to the reduced costs of energy.

In addition, there are many options available for hotels to reduce their energy consumption. Basically, hotels have been reducing energy costs by educating staff and guests to switch off appliances and installing compact fluorescent bulbs in public spaces. The Conrad Hilton Hotel in the United States, for example, has reduced its energy costs from \$3,042 to \$ 1,253 per year by replacing its 36 incandescent globes with fluorescent globes (Nelson, 1997). According to Enz and Siquaw (1999), Hotel Bel Air changed regular light bulbs to higher-efficiency bulbs, installed timers to the electrical system, and placed insulation on the doors. Bel Air claims that these actions have led to \$10,000 in savings over ten months. To reduce electricity use, the Holiday Inn at Orlando's International Airport is replacing air conditioning units with heat pumps. In addition to cutting energy usage by about 15 per cent, the hotel has obtained rebates from the local power supplier. The hotel also points out that the replacement of fluorescent bulbs for each floor lamp and for each exit sign saves hotel the money about \$39 a year for the former and \$19 for the latter (Rowe, 1998). Moreover, the Washington Hilton and Towers claims that installing energy efficient lighting is not only beneficial for cutting electricity consumption, but also results in less carbon dioxide, sulphur dioxide and nitrogen oxide emissions (Dennis, 1999).

- **Water Conservation**

Water is a major natural resource and it is one of the big three resources: land, water and air. Critical to any environmentally responsive hotel is its water conservation policy. Reducing water consumption can be of benefit hotels in terms of saving the environment and boosting revenue. Water consumed in the hotel industry is used in three primary areas, which include the guestrooms and public and "back-of-the-house" areas, the food-service facilities, and laundry installations (Valentine, 2001).

Kirk (1996) suggests that there is a causal relationship between energy consumption and water consumption. He claims that hotels consume a large amount of water in the form of hot water. The use of hot water also means energy consumption, that is, greater use of hot water results in higher energy consumption. Examples of water usage reduction include low-flow showerheads, dual flush toilets, and the reduction of levels of dirty washing or menus that make clear "drinking water served on request only". The Hilton in London has actively reduced water consumption and costs by putting bricks into the cistern of the hotel's toilets, saving 1.34 litres of water per flush (International Hotel Environment Initiative, 1996). Accor Economy Lodging has recently replaced its old 3.5-gallon flush cistern in each toilet with a 1.6-gallon flush. In other older hotels, toilet tank bag is placed inside the toilet tank, saving about one-half gallon of water per toilet per flush (Walsh, 2000). Iwanowski and Rushmore (1994) suggest that maintenance departments should encourage staff to use brooms instead of hoses for cleaning sidewalk and that lawns should be watered at dusk instead of noon to avoid evaporation. The Hyatt Regency Scottsdale has modified its irrigation system from an aboveground to an underground system to reduce water evaporation, which was a problem in the Sonoran Desert (Enz & Siquaw, 1999).

Rowe (1998) argues that the Holiday Inn at Orlando's International Airport cut its dependence on city-supplied water by installing its own irrigation well, saving almost \$5,000 in the first year alone. The hotel also treats its water to extend the life of plumbing fixtures by inhibiting oxidation and metal corrosion. Moreover, the hotel has saved about 6,000 gallons of water and 40 gallons of detergent as well as energy and sewage costs each month by reducing the amount of towels and washing

of sheets. Nevertheless, hotels that implement a system for reducing daily towel and sheet washing can expect to save resources not only in terms of water and energy consumption, but also on the life expectancy of sheets and towels.

- **Waste Management**

Waste, within in this study, refers to all the waste produced by a hotel, from construction, through to operation and maintenance, and demolition. Ordinarily, wastes in the hotel industry arise from toilets and urinals, showers, bathroom sinks, kitchen sinks, laundry facilities and floor drains. As a result of the rise of waste disposal costs and the closure of landfill sites, hotels now need to deal with the waste problems that are spread throughout the industry.

Waste prevention in all hotels has focused on materials in terms of reduce, reuse and recycle. This policy acknowledges that the best way to prevent pollution is not to use materials that become waste problems and when such materials must be used, they should be reused on site. Materials that cannot be directly reused should be recycled. Recycling should only be used if all options of reducing or reusing have been exhausted.

There are many materials that can be recycled including aluminium, tin, paper, cardboard, glass, plastic and metal. Iwanowski and Rushmore (1994) note that recycling programs are most efficient when hotels encourage the responsibility of both individual guests and staff. Furthermore, the programs are also most effective when kept simple, for example, using recycling bins to separate waste properly.

According to Hart (1993), Westin Hotels and Resorts in Vancouver has begun to implement strategies for bath amenities. The hotel provides each bathroom with pump dispensers for soap, shampoo, and lotion, which minimise the need to recycle thousands of tiny amenity bottles. To minimise waste, the Holiday Inn at Orlando's International Airport is using a local bottler who recycles beer bottles, is working with a food recycler to convert discarded food into animal food. It is also baling cardboard and separating recyclables for pick-up. The hotel claims that although the

recycling does not bring a direct pay off to the business, it nonetheless reduces the hotel's main trash bill (Rowe, 1998).

Recently, the Hyatt Regency in Chicago has introduced a model-recycling program for its 2,019 room's property. All the hotels' staff is involved in the program by separating trash into special bins. Each year the hotel staffs sift through tons of trash and recycle paper products, glass, aluminium, and Styrofoam. Another Hyatt property, the Hyatt Regency Scottsdale, has colour-coded bins in all back-of-the-house areas to make it easier for staff to recycle. The hotel also works to reuse resources, for example, by turning broken china into mosaic tile and making pencils from old denim uniforms. One goal for the Hotel Bel Air was to reduce landfill deposits by 25 per cent. The hotel began its recycling program with small recycling bins and a bailing machine, at an initial cost of \$10,500 (Enz & Siquaw, 1999). From these examples, it is clear that adopting environmentally friendly practice within the hotel industry not only benefits the organisation, but also benefits the environment and local community.

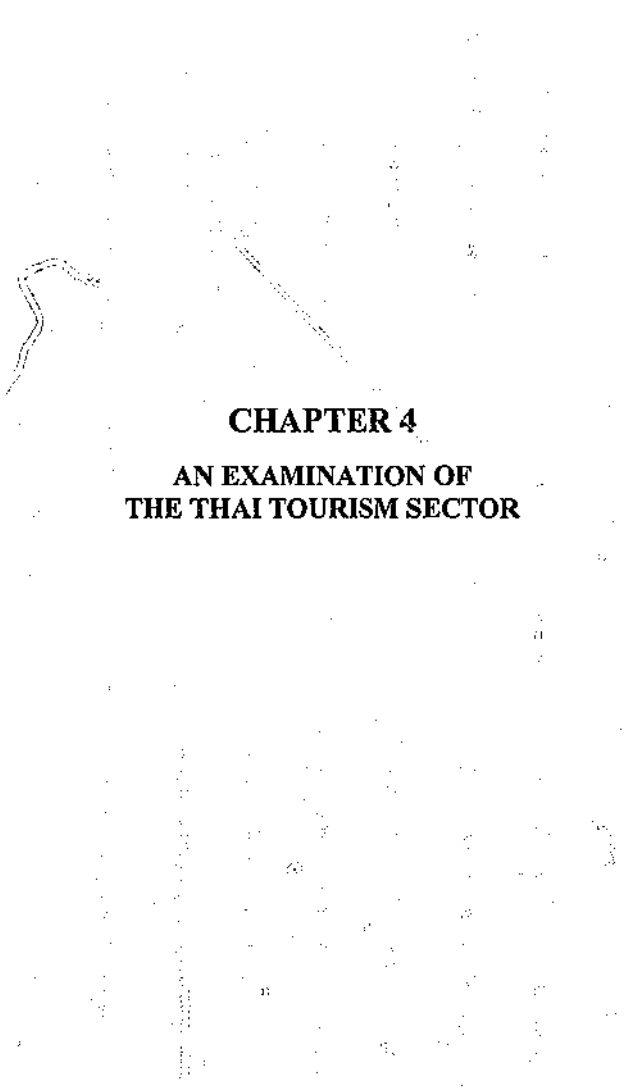
- **Environmental Product Purchasing**

Many hotel owners and operators have adopted a green purchasing policy as a key to making their properties more environmentally friendly. Traditionally green purchasing was a simply the buying goods that contained recycled materials, had non-toxic chemicals and had minimal packaging. Nevertheless, Rushmore (1994) suggests that there are additional factors that hoteliers must pay attention to, for example, comparative performance, competitive pricing and overall guest satisfaction. According to JHEI (1996, p.109), "a key concept in environmentally sensitive purchasing is that of pre-cycling. To pre-cycle is to make purchasing decisions that support responsible products and packaging, make recycling and disposal easier and reduce the amount and toxicity of the waste thrown away".

Snarr and Pezza (2000) state that some of the techniques for hoteliers to conduct green policies are to:

- Ask suppliers to take packaging back;
- Ask suppliers to identify which products contain recycled content, have reduced packaging, and are packaged in recyclable materials;
- Establish purchasing guidelines to encourage the use of durable, repairable equipment, and reusable products such as linen and tableware; and
- Purchase a dispensing system to replace disposal room amenities such as shampoo and lotion bottles.

Kirk (1996) has noted that the most difficult situation for hoteliers in making purchase decisions is the price, quality and reliability of green products compared with the hotel's profit and performance. Therefore, the optimum approach for businesses is to develop partnerships with suppliers. When partnerships between hotels and suppliers are in place, it is easier to implement sound environmental purchasing guidelines.



CHAPTER 4
AN EXAMINATION OF
THE THAI TOURISM SECTOR

4.1 GLOBAL TOURISM TRENDS

Tourism is one of the most remarkable economic and social phenomena of the last century and will maintain this position in the current century. The tourism industry is seen as an important sector for both developed and less developed countries in terms of economic and development expansion. It not only leads to the improvement of infrastructure and superstructure and creates numerous employment opportunities in the host countries, it also brings a large amount of foreign exchange earning and distributes this income to local communities.

Traditionally, world tourism has been measured in international tourist arrivals and international tourist receipts. According to the World Tourism Organisation (WTO) (2000), approximately 565 million international tourists travelled in 1995. This number has increased to 664 million in 1999, implying a growth rate of 4.1 per cent over the previous year. The most popular tourist region still being Europe with the arrival of 394 inbound tourists in 1999, implying a market share of 59.3%, followed by Americas (18.5%), East Asia Pacific (14.6%), Africa (4.0%), Middle East (2.7%), and South Asia (0.9%), respectively (Table 4).

Table 4: World Tourism Arrivals by Region (million)

	1985	1990	1995	1997	1998	1999	Growth Rate (%) 1999/1998
Africa	9.7	15.0	20.2	23.2	24.9	26.9	7.8
Americas	64.3	92.8	106.9	116.6	119.9	122.9	2.4
East Asia/Pacific	31.1	54.6	81.4	88.3	87.4	97.2	11.1
Europe	212.0	282.7	338.4	371.1	383.8	394.1	2.7
Middle East	7.5	9.0	12.4	14.3	15.3	17.8	16.2
South Asia	2.5	3.2	4.2	4.8	5.2	5.7	8.3
World	327.1	457.2	565.4	618.2	636.6	664.4	4.4
Market Share (%)							
Africa	3.0	3.3	3.6	3.8	3.9	4.0	
Americas	19.7	20.3	19.3	18.9	18.8	18.5	
East Asia/Pacific	9.5	11.9	14.4	14.3	13.7	14.6	
Europe	64.8	61.8	59.8	60.0	60.3	59.3	
Middle East	2.3	2.0	2.2	2.3	2.4	2.7	
South Asia	0.8	0.7	0.7	0.8	0.8	0.9	
World	100	100	100	100	100	100	

Source: World Tourism Organisation (2000)

In terms of income, the world tourism industry had an estimated 3.1 per cent of international tourist receipts in 1999 and generated an income of US \$455 billion. By the year 2000, global tourism receipts were projected to reach US \$527 billion. About a tenth of global employment is in the tourism industry, which contributes about 10 per cent of the world's GDP (TDRI, 2000).

Statistics from the WTO (2000) also show that the Asia-Pacific region¹ has a more significant growth rate than other regions (Figure 7). In 1996, WTO claimed that tourism in the region would surpass the Americas to become the world's number two-tourism region by the year 2010.

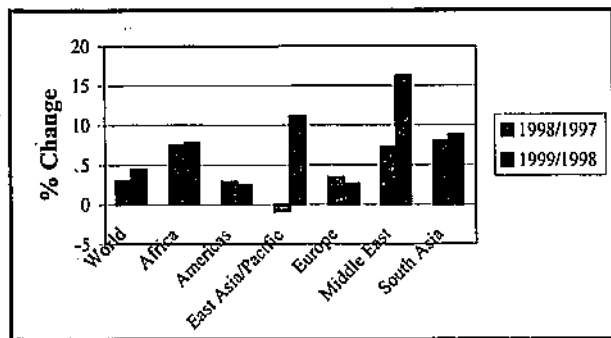


Figure 7: Tourist Arrivals - Regional Trends
Source: World Tourism Organisation (2000)

Singh (1997, p.5) has identified the rapid growth of tourism industry in this region as causing the following changes; " e.g. the strong economic growth, increase in income, breakdown of political barriers, easing of travel restrictions, liberalization of air transport, and focused marketing campaigns".

Nevertheless in 1997, the growth of the Asian tourism industry was hit by an unprecedented downturn in the regional economies. The economic crisis had began in Thailand and then spread rapidly to the region overall. As a result, the number of tourist arrivals to the region dropped dramatically during 1997 and 1998.

Fortunately, there appears to have been some gains related to these problems in Asian countries, led by Thailand, in the successful promotion of tourism through the cost attractiveness of the falling currency value (PATA, 1998). The data in Table 4 provides evidence of the fall and the revival of Asian Pacific tourism after the economic crisis in Southeast Asia. During 1999, this region reached its highest growth rate at 11.1 per cent and obtained 15 per cent of the world market share. Therefore, it can be concluded that the tourism industry plays a significant role in Asian-Pacific region and can be described as a panacea to recover for the region's economic crisis.

4.2 KEY PERFORMANCE INDICATORS FOR THAI TOURISM INDUSTRY

Thailand is located in the centre of mainland Southeast Asia and covers an area of 513,115 square kilometres. Bangkok is the capital, representing the chief port of Thailand. The country has a population of 61 million people, 32 per cent of whom live in urban areas, a figure that is still rapidly increasing.

The main revenue of the country comes from the three main economic activities: agriculture, manufacturing and tourism. Approximately one-quarter of the country's labour force is employed in industry; one-third in agriculture while the remainder is in service sector (World Travel and Tourism Council, 2001).

In 1995, the tourism sector in Thailand supported over 1.5 million jobs and contributed 15 per cent of the national income (Asian Business, 1996 cited in Singh, 1997). Since the tourism industry has played an important role in the Thai economy, especially during the economic crisis period, it is now the major generator of foreign exchange earnings through tourist expenditure as well as a major source of job opportunities in the economy.

In order to investigate the key indicators of tourism in Thailand, the next section of this paper will trace the performance of Thai tourism industry. It focuses on the four main factors including the growth and structure of Thai tourism, revenue, tourism competitiveness, and limitations and challenges of the Thai tourism industry.

4.2.1 GROWTH AND STRUCTURE OF THAI TOURISM

The Thai tourist industry has a history of continued growth. The number of international tourist arrivals in Thailand has increased eightfold from 1.2 million arrivals in 1975 to 9.12 million arrivals in 2000 and it is projected to reach to 11.2 million arrivals by the year 2003. Statistics from the World Tourism Organisation in 2000 also show that Thai tourism has a tourism growth rate of 5.7%, which is higher than the world tourism growth rate (4.2%) and that of Asia Pacific (5.6%). Furthermore, these figures reveal the average length of tourist stay as 8 days per person. In 1998, Thailand obtained a 1.2% of the world tourism market share, 8.5% of Asia Pacific market share and 28% share within Asian tourism market (WTO, 2000).

Being located between the 'West' and the 'East' and between the Northern and Southern hemispheres, Thailand represents the gateway to Asia and gains a considerable benefit from this position. Don Muang Airport, the main airport in Bangkok, boasts more than 490 flights per day. At present, the Thai Airline and Thai tourism industry play an important role in distributing tourists to other destinations especially to Myanmar, Lao and inner China through Yunnan and Sichuan. Thus, Thailand is the centre of Southeast Asia and provides the majority of momentum for regional tourism industry (Cohen, 1996 cited in Kontogeorgopoulos, 1998).

4.2.2 THAILAND TOURISM REVENUE

In 1995, international tourist revenue in Thailand generated about 14% of the total export earnings and 49% of the total income of the service sector. Tourism accounts for 7% of Thailand's GDP and it is the country's second largest revenue generator. These profits have been possible because of increase international tourist arrivals. In 1999, about 8.59 million international tourists to Thailand spent 269,772 million Baht (US \$6,695 million), increasing 12% on the previous year. By the year 2000, international tourist receipts increased 8.2%, generating 291,773 million Baht (TAT, 2000c). This success is attributable to Thai tourism industry which did not suffer the negative slump in overseas demand that Indonesia has with its sporadic social unrest.

In addition, there are other factors that contribute to Thailand's positive tourism trend including smoke from the Indonesian wildfires, business alliances between international travel agencies and hotels in Phuket, the 195 million Baht support budgeted by the government and the successful promotion of Amazing Thailand (Thai Farmer Research Centre, 1999).

Traditionally, the majority of international tourists visiting Thailand came from the United States and Western Europe. However, this trend changed in mid 1970s (Kontogeorgopoulos, 1998). At present, the main tourist market target of Thai tourism is East Asia, which consists of Japan, Malaysia, Singapore, China and Hong Kong. The second most numerous groups come from Europe, Americas, Oceania and South Asia. According to the Tourism Authority of Thailand (TAT) (2001a), there were 6.94 million foreign arrivals to Thailand during the first nine-months of the year 2000. Approximately 4.28 million people came from East Asia, an increase of 11.68% on the previous year. Tourists from Japan were the largest group of visitors to the country with a total of 893,425 people, followed by 766,533 Malaysian tourists. In terms of expenditure, however, Singaporean tourists show the highest individual expenditure with 4,600 Baht per day, followed by Indians (4,480 Baht), citizens of Hong Kong (4,470) and the Chinese (4,300 Baht).

4.2.3 TOURISM COMPETITIVENESS

Thailand has been extremely successful in promoting its tourism industry to the international and national markets. It began its campaigns with "Visit Thailand Year 1987" to celebrate the Thai King's 60th birthday, "Amazing Thailand 1998-1999" and other extensive tourism promotions. Since then, this success has encouraged other Asian countries to emulate Thailand and has led to extensive competitiveness across the Asia Pacific region.

Thailand is outstanding in terms of tourism products. It has all the necessary assets to be a world-class tourism destination. At present, Thailand has three World Heritage areas including Sukhothai Sri Satchanalai-Kamphaeng Phet Historical Parks, Ayutthaya Historic Park, and Pa Tung Yai-Huai Kha Kaeng Wild Life Preservation Sanctuary. A recent survey by TAT found that Thailand ranked first in five tourist

categories that included historical sites, culture, people, food and nightlife. Moreover, Thailand is ranked second to Indonesia in terms of the cultural diversity of its people and second to Australia in sun-sea-sand appeal and adventure tourism. Furthermore, in terms of tourist shopping appeal, Thailand is ranked third after Singapore and Hong Kong (TAT, 2001c). This further indicates the appeal of Thailand as an attractive tourist destination.

In addition, the Thai government plays a significant role in tourism development as it has recognised that tourism is a powerful sector to generate revenue from foreign exchange earnings. The Tourism Authority of Thailand and the National Environment Board are responsible for sustainable tourism at the national level. At the local level, the Regional offices of the Tourism Authority of Thailand, the Provincial Authority, the Regional offices of the Office of Environmental Policy and Planning and the Local Administration Organisation are responsible for local sustainable tourism and tourist facility development (UN, 2000).

Recently, the Thai government, under the leadership of Prime Minister Thaksin Shinawatra has identified and eliminated obstacles to the rapid advancement of the tourism industry. One of the initiatives from the Prime Minister is strong support to develop Phuket and Chiang Mai as duty-free ports (Asia Pacific News, 2001).

4.2.4 LIMITATION AND CHALLENGES

Tourism in Thailand is to a certain extent concentrated on Bangkok and other specific areas such as Pattaya, Phuket and Chiang Mai. The uncontrolled growth of Bangkok, which is a result of the economic boom and the fact that it is the major centre of communication for Thailand, has led to negative aspects of the city, notably traffic congestion and pollution. In addition, the overflow of tourists in Pattaya, together with, unplanned development has led to water shortages, sewerage treatment difficulties and water pollution. The experiences of Bangkok and Pattaya should be a good example for other major tourist destinations such as Phuket and Chiang Mai to consider with regard to carrying capacity abilities. In short, management capacities in major tourist cities will have to be enhanced so that the cities can cope with the more negative environmental aspects of tourism. Thus, the

main challenge for the Thai tourism industry today is to reduce the negative impact that tourist activities have on the environment.

In the history of Thai tourism, setbacks and limitations have come from management on the supply side rather than on the demand side. Therefore, the challenge for the greening of Thai tourism includes management and control of carrying capacities, additional entry-exit points to alleviate the stress on Bangkok, the development of green areas for the urban population, the emphasis of nature-based tourism and the adoption of green practice within the tourism supply sectors (UN, 2000).

4.3 THE ENVIRONMENTAL MOVEMENT IN THAILAND

The environmental movement in Thailand has grown considerably in recent years. Today Thais are more conscious of the ecological transformation and environmental degradation, which have resulted from the country's rapid economic development. Kontogergopoulos (1998) argues that the intensive development based on natural resources by agriculture, industry, housing and tourism has led to several environmental problems. During the 1980s much of the environmental concern focused on increasing deforestation. Since then, environmental problems have spread to water resources, air quality and the management of coastal areas. Typically environmentalism in Thailand can be interpreted as a concern regarding environmental depletion of the country's natural resources by overall rapid growth in development. As the environmental movement has grown, there are also many organisations involved in deciding how to manage natural resources. These include NGOs, farming groups, natural and social science academics, local authorities and the wider community. Public hearings have become a major strategy and are required for any projects that affect natural resources.

Today, Tourism and its related businesses have grown significantly in both economic and social importance. Since natural resources are the real raw material of the tourism industry, the rapid growth of this sector has resulted in some crucial concerns. These concerns are emphasised in rural areas where the impact has placed pressures upon local ecosystems and natural environments. To tackle these concerns, the notion of sustainable tourism has become popular in tourism planning.

According to the United Nations (2000), some of the policies and plans that have been developed for sustainable Thai tourism include the following:

- The Thailand's Tourism Master Plan;
- The National Environmental Quality Promotion Policy;
- The National Environmental Quality Promotion Action Plan;
- An Operational Study Project to determine eco-tourism policy;
- An Operational Study Project to identify marine eco-tourism; and
- The other resource management plans such as coastal, National Park, Marine Park, coral reef and mangrove.

Thailand's Tourism Master Plan highlights two strategies concerning sustainable tourism: the rehabilitation and conservation of tourist attractions, and the greening of Thai tourism. In the National Tourism Development Plan, several points to develop eco-tourism have been raised including: prioritising National Park development; imposing strict controls on environmental impact; creating the Green Tourism Label; registering tour operator and guides; and carrying out a campaign for eco-tourism (UN, 2000).

A study by the Thai Development and Research Institute (TDRI) (1997) provides some reasons why the government is obstructed in setting environmental legislation for reducing the pollution levels and environmental damage caused by the industrial sector. These include:

- A lack of resources (financial and human);
- Monitoring and enforcement difficulties (discussed later);
- A lack of authority and overlapping jurisdictions that prevent legislation implementation;
- Low fines and charges for polluters to modify behaviour;
- A lack of coordination among government agencies; and
- A lack of technology.

4.4 KEY REGION AND PRODUCT DESCRIPTION

In the past, the majority of tourist arrivals in Thailand concentrated on and around Bangkok, but as a result of the rapid growth of economic and improved technology, tourism in Thailand has expanded to other parts of the country. At present, five provinces including: Bangkok, Phuket, Chon Buri-Pattaya, Chiang Mai and Songkhla-Hat Yai absorb large numbers of tourists and earn more than US \$400 million per year from tourism (TDRI, 1997). This expansion includes two cities located in the South of Thailand: Phuket and Songkhla.

According to TAT (1999a), Phuket is the main destination for tourists, especially those who come from Australia and New Zealand. Indeed, Phuket has the potential to compete with Bali, a rival tourist attraction in Indonesia.

In 1999, Phuket received 2,167,802 foreign visitors representing an increase of 15 per cent over 1998. This is because Phuket is still a popular tourist destination for both Thai and foreign travellers. Moreover, it is the centre in Southern Thailand that provides international links. In 1999, Phuket's earnings from international tourism totalled approximately 48,000 million baht. The majority of international tourist expenditure is spent on accommodation and shopping (TAT, 1999b).

Phuket province is situated 867 kilometres south of Bangkok. It is a unique province in that it is Thailand's largest island. Phuket is surrounded by 32 smaller islands that form part of the same administration. The whole province has a total area of 570 square kilometres. About 70 per cent of Phuket is mountainous. The remaining 30 per cent of the island, mainly in the centre and south, is formed by low plains. Phuket's weather conditions are dominated by monsoon winds that blow all year. Therefore, it is always warm and humid. There are two distinct seasons: the rainy season is from May to October; and the dry season is from November to April. The highest average temperature is 33.4 degrees Celsius, while the lowest averages occur in January, at 22 degrees Celsius (TAT, 2001c).

The province consists of three districts; Talang in the north, Kathu in the west and Muang in the south. In 1998, Phuket had a population of 231,206 people. However, Phuket's attraction as a centre of economic activity has resulted in many living on the main island despite being registered elsewhere. The total population of Phuket, therefore, varies considerably depending on the time of year (TAT, 2001 b).

Phuket is a city with long and richly recorded history with physical remains dating back to A.D. 1025. During the nineteenth-century, Chinese immigrants arrived in such large numbers to work the tin mines that the ethnic character of the island's interior became predominantly Chinese, while the coastal settlements remained populated chiefly by Muslim fishermen. In King Rama V's reign, Phuket became the administration centre of a group of tin mining provinces called Monton Phuket. In 1933, with the change in government from absolute monarchy to a parliamentary system, the island was established as a province.

Over the last hundred years, Phuket has established its economic importance with the mining of tin and its rubber plantations. Since the early 1980s, the mining and rubber activities have been virtually replaced by tourism. Hotels, restaurants, tour companies, and souvenir shops have developed rapidly, especially on the West Coast of the island. The following list provides a brief introduction to the tourist attractions in Phuket.

- *Places of interest in Muang District:* Rang Hill, Antique Buildings, Phuket Aquarium, Phuket Butterfly Farm and Aquarium, Phuket Sea Shell Museum, Chalong Bay, Thai Village and Orchid Farm or Sirey Island.
- *Places of interest in Kathu District:* Ka Cape, Rawai Beach, Prom Thep Cape, Nai Ham Beach, Sehn Bay, Kata Beach, Karon Beach, Phuket Fantasea, Kamala Beach, Kalim Beach, or Mai Ton Island.
- *Places of interest in Thalung District:* Thalung National Museum, Pra Tong Temple, Pra Nahng Sahn Temple, Khao Pra Taew Wildlife Conservation Development and Extension Centre or Sirinat National Park.
- *Activities and Recreation:* Scuba Diving, snorkelling, swimming, sailing, golf, tours of Phuket Town, jungle tours, horseback riding, mountain biking, or sea canoeing.

- *Shopping:* Large department stores are located in Phuket town and Patong and small retail shops around the city. These shops have a broad range of products available in Thailand, both imported and domestic.
- *Local Festival and Culture:* Thao Thep Krasatri-Thao Sri Sunton Festival, Turtle Release Fair, Phuket Vegetarian Festival, Laguna Phuket Triathlon, Tourist Season Opening Festival, or Phuket King's Cup Regatta.

4.5 TOURIST ACCOMMODATION SERVICES

As a result of the increasing growth of international and domestic tourism within Thailand, several types of lodging and accommodation services have emerged in order to cope with the growing numbers. According to Mander (1998) tourist accommodation establishments in Thailand have been classified into three types including:

- Hotels and Bungalows;
- Golf Resorts; and
- Guesthouses in National Park Areas

Mander (1998) also claims that the number of tourist accommodation establishments in Thailand has steadily increased since 1994. In 1994, there were approximately 4,850 tourist accommodation establishments in the country, offering 246,113 tourist rooms. In recent years, however, there has been a problem of oversupply especially in Bangkok and other main tourist destination cities such as Chaing Mai and Phuket. Additionally, Pleumanron (1999) also points out that the present major problem of the Thai hotel industry is the oversupply in hotel rooms. Moreover, most lodging establishments have been built in the modern urban style and lack any environmental consciousness in their design and operation.

4.6 THE ROLE OF THE HOSPITALITY SECTOR IN THAILAND (IN PARTICULAR PHUKET HOTEL INDUSTRY)

The hotel industry in Thailand has been growing continuously since the tourism boom in the late 1980s (Li & Zhang, 1997). Despite the country facing an economic crisis, there is evidence of growth in the supply of hotel rooms especially those in major tourist destinations. According to Muqbil (1999), Phuket and Bangkok hotels showed increased occupancy up to 80% and 70% respectively at the end of 1998. These hotels also achieved revenue per available room (revPAR) ranging from US \$90 to US \$120. By mid 1999, the average room rates began to show positive growth and resulted in solid hotel performance. Bangkok hotels alone recorded an average room rate of 7.4% higher than 1998. Occupancy also increased to 2.8% over the previous year while revPAR recorded a strong 10.4% growth over 1998 (TDR, 1997).

Despite the economic crisis, new hotels continue to open. In Bangkok alone, there were the 370-room Peninsula Bangkok, the 410-room Merchant Court at Le Concorde and the 673-room Baiyoke Sky Hotel opened in 1999 (TAT, 2001 a., p.11). Withiam (2000) argues that Bangkok's hotel business was strong during the depths of Thai currency devaluation, because local hotel tariffs dropped with the baht and Thailand conducted a marketing campaign to boost its tourism industry. However, there were many hotels that have suffered in the financial crisis. The Dusit Thani Hotel Group, for example, was forced to sell Kempinski after its partner in the venture, the Siam Commercial Bank ran into severe liquidity problems and had problems with non-performing loans. Dusit then sold its 30% share to American Goldman Sachs, an influential Wall Street financial institution. In the following week, Goldman Sachs took over the five-star Regent Hotel in Bangkok, which belonged to the Rajadamri Hotel Group (Muqbil, 1999; Pleumaron, 1999).

Within the Phuket hotel industry, there were a total of 3,083,208 tourist arrivals to the island in 1999, increasing 15.89% from the previous year despite the increasing room rates. The average length of stay in the island was 5.07 days. With this number of tourists and the average length of stay, Phuket received total revenue from tourism of 55,715 million baht in 1999 (TAT, 1999b).

In the year 2000, there were 353 hotels located on the island, providing more than 20,000 rooms (TAT, 2000a). According to the Thai Hotel Association (2001), a further 100 properties were expected to open in Phuket in the year 2001, adding another 10,000 rooms. The number of tourists visiting Phuket was forecast to rise to 3.4 million in 2001. In late 2000, Phuket hotels reported occupancies of 90% to 95% with some hotels achieving 100% occupancy for short periods.

According to Pradech Phayakvichien (2000), the governor of the Tourism Authority of Thailand, the growth of tourism in Phuket is positive even though it is not quite as high as previous years. However, Phayakvichien points out that Phuket needs to be improved and developed in four major areas in order to sustain its tourism industry. Firstly, the authorities must take an active stance to ensure the safety and security of tourists and their belongings. Secondly, Phuket must take seriously the need to keep its environment clean and healthy, because the island's beautiful beaches are the main reason that people come to Phuket. If they are not kept clean, people will go to other places. Thirdly, the accessibility to all tourist attractions needs to be improved and finally, hotels and related hospitality businesses need to support the quality of tourism products in order to sustain the growth of tourism in the region in the future (TAT, 2001a, p.27).

4.7 THAI TOURISM POLICIES AND LEGISLATION

At present, Thailand is in its Eighth National Economic and Social Development Plan (1997-2001) that strongly emphasises environmental protection and sustainable development (Mander, 1998). Within this plan, there are some strategies that have important bearing on sustainable tourism practices in general and the hotel industry in particular. These include:

- Reducing the volume and range of pollution;
- Establishing appropriate criteria for garbage and waste management with an emphasis on the reducing, reusing and recycling of waste;
- Encouraging eco-tourism by local communities, including their capacity in project formulation and planning in order to obtain financial assistance from appropriate government budgets and funds;

- Shifting from chemical fertiliser to organic fertiliser;
- Charging fees for the consumption of water by industrial, agricultural and domestic consumers; and
- Minimising the waste of clean water through leaks and encouraging water-saving devices and the reuse of cooling water and treated waste water in some industrial activities.

It is clear that the strategies and policies as outlined in the National Plans indicate changing trends. The Thai hotel industry in the future will have to meet with: (1) increasing costs of utilities and waste management in line with a Polluter Pays Principle; (2) a more responsible resource and waste management; (3) increasing public disclosure about the environmental performance of the hotels (Teerasat, 1999). For example, the Thai government has recently requested an Environmental Impact Assessment (EIA) study of hotel and resort establishments greater than 80 guest rooms, to be located at environmentally sensitive areas such as areas adjacent to rivers, coastal areas, lakes or beaches or in national parks (Mander, 1998).

Although Thailand has been developing its environmental legislation for its hotel industry since 1935, it has not had much affect in the context of environmental management (Mander, 1998). In other words, the Thai hotel industry still does not have to abide by any strict environmental laws and regulations. However, there are assistance programs that are applicable to the Thai hotel industry. These include:

- **Green Fair:** The Green Fair Program was developed by the Thai Hotels Association (THA), along with, the Metropolitan Waterworks Authority, Electricity Generating Authority of Thailand (EGAT), Tourism Authority of Thailand (TAT) and Phuket Marine Biological Centre. The Green Fair Program promotes the concept of eco-tourism as a cost-saving means of protecting the country's greatest asset, its natural environment, while also investing in the future of the tourism industry (Mander, 1998).
- **The Green Leaf Certification Program:** In 1994, the Dusit Hotels and Resorts, together with, the Tourism Authority of Thailand produced the Green Leaf Certification Program. This program was designed to encourage greater

environmental activity in hotels throughout Thailand. Its objective was to improve the efficiency of the hotel operations in order to save energy, water and other resources (Mandke, 1999).

- The UNEP's Sustainable Tourism Program: Within the framework of the UNEP, this program aims to promote cleaner and safer industrial production and consumption patterns. This tourism program assists decision makers in the public and private sectors, in developing and implementing policies and tools for environmentally sound tourism (United Nation Environment Program, 2001).

4.8 SUMMARY

In brief, Thailand is an increasingly attractive international tourist destination as a result of the country's unique environment and its currency devaluation. Tourists, at every budget level, have the means to afford a range of luxury hotels, to dine in international quality restaurants or to extend the length of their stay in the destination. However, there is evidence that the hotel industry and related hospitality services have brought numerous environmental problems to their used environments. Moreover, the rapid development of Thailand's tourism and hospitality industry has been, in part, self-destructive and has resulted in the deterioration and disorderliness of the whole tourism industry.

Environmentally friendly practices for hotels are emerging in response to political and social pressure for sustainability. The prime environmental issues in hotels are energy conservation, water consumption, waste management and environmental product purchasing. Thus, developing environmentally friendly programs and ensuring the participation of hotels in these programs is important in terms of the country's environmental sustainability.

The primary advantage of being an environmentally friendly hotel is greater energy efficiency that along with the recycling of resources and reduced waste, quickly leads to considerable savings and consequent competitive advantages. The adoption of environmentally friendly practice within the hospitality industry, however, is a

much more complex task than for other industries due to the large number of extraneous factors, which characterise the external and internal strategic and operational environment. It is increasingly clear that adopting green practice in hotels has the potential to promote Thai tourism, to help hotels make more money as well as conserve the environment for future tourism activities.

CHAPTER 5

THEORETICAL FRAMEWORK

There has been general recognition in the literature that the growth of tourism and the consequent growth of the hotel industry has been substantial over the last decade. As the environment is recognised as the real raw material of the tourism industry, and hotel development is a major trading component of the tourism system, the relationship between hotels and the environment is considerable and if unplanned and uncontrolled hotel, operations may have adverse affects on environmental quality. A move towards the protection of the environment has been emerging globally and the tourism and hospitality industries, which impact on fragile ecologies, are becoming a major concern. The hotel industry, in particular, needs to take further steps toward making itself more environmentally friendly. Globally hotels are increasingly recognising the need for using energy and other resources responsibly and for controlling consumption by adopting environmentally sensitive policies and practices.

As stated previously, the primary aim of this research has been to ascertain the extent of what might be considered environmentally friendly practice within the Phuket hotel industry and the motivation(s) behind such practice. To this end the study seeks to identify not only existing industry practice (industry response) within this sector, but also the key drivers (whether internal or external system influences) and industry motivations behind this practice. The nature of these relationships is illustrated in Figure 8. The literature suggests that actual response might relate to various operational practices including energy conservation, water conservation, waste management and the purchasing and use of environmentally friendly goods and services. Similarly, the literature identifies a number of possible drivers or motivators for such practice including an internalised belief system, the quest for competitive market advantage, government and industry regulation, and/or pressure of green consumerism.

Additionally, the study shall also seek to explore whether any key differences in approach exist between hotels of different classification. For example, the literature suggests that while support for environmental practice is widespread within industry, actual practice may be limited due mainly to the perceived costs of going green. Whilst this is a rather myopic and short-term view, the reality for many operators is

such that it is simply too costly to go green. Additionally, and where differences are shown to exist, the study intends to ascertain whether these motivations are a result of any internalised belief in the value of sound environmental management or a result of some form of forced compliance by industry, government and/or wider society?

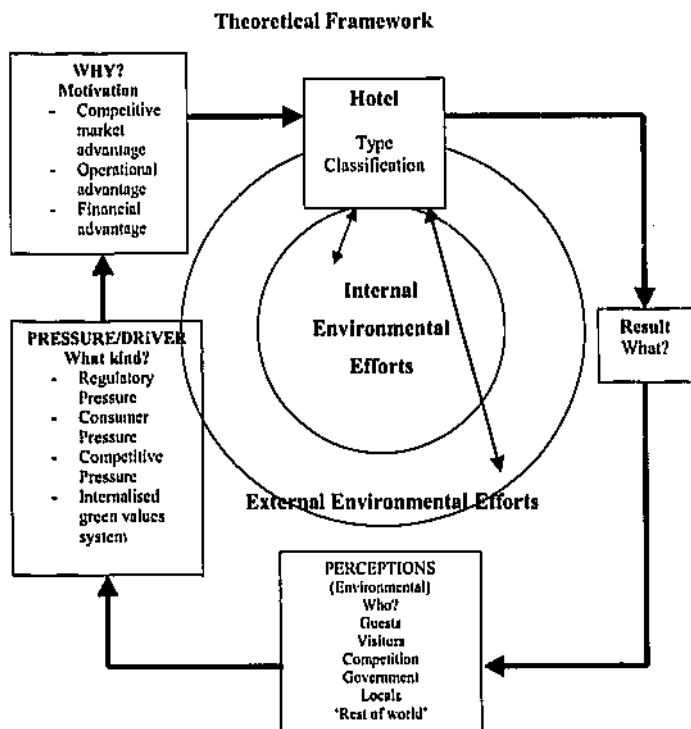


Figure 8: Theoretical Framework Model

CHAPTER 6

RESEARCH METHODOLOGY

6.0 INTRODUCTION

The purpose of reporting any research methodology is to inform the reader of the research design for a particular and the justification for its use. According to Ghauri, Gronhaug and Kristianslund (1995) it is the overall plan for relating the conceptual research problem to relevant and doable empirical research. This chapter describes the research design of the study. The following discussion covers the methodological aspects of this study, with the justification for the proposed method being presented within the context of the following methodological issues:

- Quantitative versus qualitative studies;
- Cross-sectional versus longitudinal studies;
- Research setting;
- Research Sample;
- Response bias;
- The research instrument;
- Research procedures;
- Data analysis;
- Pilot work;
- Ethical consideration; and
- Summary.

6.1 QUANTITATIVE VERSUS QUALITATIVE STUDIES

Research methods can be classified in various ways, however, one of the most common distinctions is between quantitative and qualitative research methods. Indeed, one of the most common dilemmas that the researchers often confront when developing any research plan is a choice between conducting quantitative or qualitative research. Quantitative research, broadly defined, refers to any kind of research that investigates how much a new inspection method decreases the number of faults. In contrast, qualitative study seeks to answer questions about the sources of variation between different inspection groups (Hoepfl, 1997). As such, there is a long-term criticism among researchers on the relative value of quantitative and qualitative inquiry. McColl, Callaghan and Palmer (1998) advocate that one of the most difficult aspects in developing any research plan is whether to conduct a

"mail surveys with a return of 30% or so, are often considered satisfactory, but there are instances of more than 70% response". Whilst satisfied with the initial response, the researcher nonetheless decided to improve the response return rate by telephoning those who had not replied to the original questionnaire. In addition, a new questionnaire plus a letter telling non-respondents that questionnaires had not been received was sent out on the fifth week after the original mail out. Over the next two weeks a further 54 completed surveys were received and included for the purposes of final analysis. As such, the final response rate consisted of 149 hotel respondents, representing 67.73% of the total sample frame.

6.4.2 QUALITATIVE SAMPLE DATA

According to Zikmund (1996), a sample refers to a subset or some part of a larger population. In order to examine further the motivation(s) behind current environmentally friendly practice within the Phuket hotel industry, a smaller group of Phuket hotel managers was selected for the qualitative stage of inquiry. The primary reason for choosing hotel managers was due to their seniority within the various subject properties and the fact that they are the persons who more often than not have day to day responsibility for operational decision making (Stephen, Brance, Ron and Terry, 1998). It is evident that hotel managers, especially in the Phuket hotel industry, play a significant role in administering the organisations. Front line employees, on the other hand, play a less significant part in decision-making processes as well as other organisational management.

Given this situation, the researcher selected five managers from each of the five hotel classifications, or twenty-five hotel managers' in all as the sample group qualitative research exercise. In each case actual subjects were selected through the use of random stratified sampling. Zikmund (1996, p. 372) defines stratified sampling as "a probability sampling procedure in which sub samples are drawn from samples within different strata that are more or less equal on some characteristic". The advantage of a stratified sample is the fact that it provides a more efficient sample than could be taken on the basis of random sampling. Emory & Cooper (1991, p. 266) provide three reasons why a researcher should choose a stratified random sample; "(1) to increase a sample's statistical efficiency, (2) to provide adequate data for analysing

the various sub-populations, and (3) to enable different resource methods and procedures to be used in different strata". In addition, the accuracy of the results depends on the natural variability within the strata. If the strata are geographically separate, it may be less expensive to sample separately.

As stated, the strata for this stage of the study included a total of five hotel classifications within Phuket province ranging from one (1) through to five (5) stars. All properties were classified by the Thai Hotel Association, with the actual breakdown consisting of 61 "one star hotels", 57 "two star hotels", 64 "three star hotels", 27 "four star hotels", and 11 "five star hotels".

Having decided upon the method of sample selection, it then proved necessary to consider how many subjects should be chosen and included for the purposes of interviewing. Emory and Cooper (1991) point out that the researcher must base the decision on the number of sub-population groups and costs of stratification. They go on to suggest that the size of the actual sample group be determined by two factors: firstly, the matter of "how large the total sample should be"; and secondly, "how the total sample shall be allocated among strata", (Emory & Cooper, 1991, p.267).

The sample population for this stage of the study consisted of five hotel managers from five hotel classifications or twenty-five hotel managers in all. The sample size for each stratum was not allocated on a proportional basis with the population size, but by analytical considerations. As such, it can be classified as a dis-proportional stratified sample. The decision to set the actual sample size as five for each stratum was made solely by the researcher in light of both cost and time constraints. It was also felt that a total of twenty-five interviews would be sufficient as to serve as representative of industry views at large. This is in line with Sampson's (1996) viewpoint that any qualitative research design making use of the personal interview technique should consist of at least 24 interviewees, and 30 interviewees at the most. Moreover, costs of stratification and time constraints also entered into the decision.

6.5 RESPONSE BIAS

A further issue that needs to be addressed relates to the issue of non-response and late response bias, the existence of which limits the ability of the researcher to generalise findings from a respondent sample to a population of interest. According to Churchill (1996) this represents a failure to obtain information "late or at all" from some elements of the population selected and designated for the sample. There is evidence that the existence of such bias limits the generalisation of findings from a sample (O'Neill and Palmer (2001)).

Within the quantitative stage of the research, 220 questionnaires were administered to hotels in Phuket province. No unused questionnaires were returned to the researcher, which implies that each of the surveys was delivered to the intended recipients. Of the 220 questionnaires originally administered, only 95 completed questionnaires were received by the set cut off date, representing an approximate response rate of 43%. In an attempt to bolster the initial response rate, a duplicate survey was administered to all initial non-respondents. This led to additional 54 completed surveys having been received, giving a total of 149, and representing a 68% response rate. While this is indicative of a satisfying response rate, a large number of participants still refused to participate in the survey. This raises some concern as to whether such a large non-response rate might actually cause some form of bias with respect to the results? In addition, the question needs to be addressed as to whether any response obtained from late respondents might be significantly different from that obtained from initial stage-two respondents? With mail surveys, however, it is possible to compare those who responded immediately with those who needed a second mailing. Upon completing this exercise the researcher was satisfied that no significant differences existed between both groups. It was, therefore, deemed unnecessary to further investigate differences in key demographic and outcome variables between the two groups.

6.6 THE RESEARCH INSTRUMENTS

The research instruments for this study consisted of a mail survey and personal interview schedule. In order to conduct the first stage of the study, questionnaires were used for data collection. The questionnaire used in the survey was adapted from Dowdell and Dowling (1996) in their previous study "The Greening of Perth's Hotels". The questionnaire consisted of 5 sections. The first four sections included yes/no questions applicable to targeted hotel areas including: the housekeeping, maintenance, administration and kitchen and restaurant departments. The last section of the questionnaire inquired about the demographic profile of the hotel and managers' concerns about environmental issues. The questionnaire also included open questions within each section of the targeted areas. This enabled the researcher to trap information that may have been missed in the closed questioning. Because respondents tended to confirm their answers to the closed questioning, the open-ended questions were not included in the computer analysis. But they were manually summarised, and any specific suggestions were referred directly to the Phuket hotel industry for further consideration.

The questionnaires were translated into the Thai language and distributed to the respective research subjects. The process of translating the questionnaire from English to Thai involved three steps. Firstly, the researcher who is a Thai citizen translated the questionnaire from English to Thai. Next, a Thai lecturer in the Linguistics Department at the Rajabhat Phuket Institute translated the Thai version back into English. Finally, the latter English version was checked with the original English version to ensure that there was no misunderstanding of the terminology in the questionnaire. After that, each question was presented in both English and Thai languages. The translation was deemed necessary because Thai people who are non-native English speakers run most hotels, especially those with lower classifications. It is well known that many of them have the low levels of English language fluency. Thus the translation would prevent any misunderstanding.

In the second phase of the research, semi-structured personal interviews were used for the purpose of gathering data. According to Emory and Cooper (1991), semi-structured interviewing is not so simple and an interviewer should be trained to carry out all procedures that foster a good interview relationship. To this end, the researcher conducted a series of pilot interview with five resort managers as apposed to hotel managers, chosen from the resort sector solely on the basis of their willingness to participate in the exercise. The pilot interviews were conducted between 17th October and 23rd October 2001. The purpose of this pilot interview was to hone the skills of the researcher and to indicate the possible direction that the interview questions might take. The interviews were administrated both in the English and Thai languages depending on the interviewees' nationality. The results of these pilot interviews resulted in some modification of the interview schedule.

Having conducted the pilot interview, the final interviews were conducted with the twenty-five hotel managers, who were excluded from the mail survey. The interviews were held at hotels chosen to be the subjects. The interviews, which took approximately 25-30 minutes, had been scheduled for collecting data between 1st November and 30th November 2001. The time between interviews was used to transcribe interviews, conduct preliminary data analysis and revise the interview schedule as appropriate. The interviews were tape recorded with permission from the subjects, and transcripts were forwarded to the subjects for review.

The semi-structured interview schedule was open-ended, incorporating a funnel approach, starting with non-threatening general questions and narrowing to gain a deeper and more personal perspective. The open-ended interview questions are presented in Appendix D. It is noted that the open-ended interview schedule used in this study was adapted from the mail questionnaire and the results of the previous pilot study. In addition, interview bias was reduced, as the researcher, who had also designed and pre-tested the interview questions, was the sole interviewer.

6.7 RESEARCH PROCEDURES

In order to obtain information and to achieve the research objectives, the following procedures were undertaken:

- The researcher conducted the study after having obtained permission (13/08/01) from the Faculty of Business and Public Management at Edith Cowan University.
- The researcher developed a questionnaire that was adapted from Dowdell and Dowling in their previous study "The Greening of Perth's Hotels" in 1996. The research supervisor then approved the formatting of the questionnaire with the secondary research supervisor and the researcher.
- Since the questionnaire adopted for this study is written in English and since English is not a widely spoken language in Thailand, it then proved necessary to translate the questionnaire into Thai language. The process of translating the questionnaire from English into Thai is illustrated in section 6.7 of this study.
- Consideration was then given to the issue of the research sample for both stages of the study.
- Having established that the quantitative research frame would include subjects all Thai Hotel Association classified properties on Phuket, the researcher administered a mail survey to 220 of a total of 245 THA classified properties. The remaining 25 properties were excluded based upon their involvement in the following qualitative stage of the research. The administration of the questionnaires was carried out within one month (15th September 2001 - 15th October 2001). The respective respondents were sent a questionnaire, together with a covering letter explaining the objectives of the research, and a prepaid return envelope.
- A reminder letter was sent to hotels one week before the dead line (15th October 2001) in order to improve the actual response rate. In addition, a follow up telephone call was made to non-respondents and a fresh questionnaire was administered to these subjects five weeks after the date the questionnaires were mailed.
- All data from the completed questionnaires were entered into SPSS for Windows.

- Having completed the first stage of the research the researcher then moved on to conduct the qualitative stage of the research, which involved personal interviews with the General Managers of the twenty-five properties excluded from the quantitative research stage. As stated previously this was preceded by a series of pilot interviews with 5 General Managers from the Phuket resort sector. This was deemed essential in order to hone the interviewing skills of the researcher and some indication as to the possible directions that the interview questions might take. Pilot interviews were conducted for collecting data within one-week period (17th October 2001 – 23rd October 2001). The researcher contacted the respective resort managers via the telephone. They were informed of the purpose of the research, and were asked if they would consent to being interviewed. If the resort managers were in agreement, an interview appointment was arranged based on a time, date and venue convenient to the resort managers. All of the resort managers contacted, agreed to being a subject and the personal interviews were conducted at the resort managers works' location. The interviews were transcribed with permission from the subjects. The transcripts were forwarded to subjects for review.
- The main qualitative research interviews were conducted with 25 hotel managers over that period 1st November – 30th November 2001. The researcher contacted each of the participants via the telephone. They were informed of the purpose of the research and asked if they would consent to being interviewed. Upon giving their consent, an interview appointment was arranged based on a time, date and venue convenient to the hotel managers. All interviews were conducted at the hotel managers works' location, and the length of the interviews ranged from 25 minutes to 60 minutes. The time between interviews was used to transcribe interviews, conduct preliminary data analysis and to revise the interview schedule. The interviews were tape recorded with permission from the subjects. After that, the transcripts were forwarded to subjects for review.
- The results from both the mail survey and personal interviews are presented in terms of current environmentally friendly practice within the Phuket hotel sector, the motivation behind existing practice and whether operators regarded environmental practice as an important part of their business, and how they

quantitative or qualitative study or a combination of both. Although both types of research can be used to investigate the same topic, each will address a different type of question.

As mentioned previously, quantitative research is often contrasted with qualitative research. However, it is not necessary that these two paradigms are seen as competing; in fact they could be seen as complementary strategies. Patton (1990) mentions "a paradigm of choices" to judge the methodological quality of any research by focusing primarily on the methodological appropriateness. Patton (1990, p.39) also argues that "this notion allows for a situational responsiveness that strict adherence to one paradigm or another will not". In addition, a number of researchers also agree that quantitative and qualitative research can be effective when combined in the same research project (Strauss, 1987; Streubert and Carpenter, 1995). But although many contend that research can be enhanced considerably by a combination of both quantitative and qualitative approaches, few guidelines exist for accomplishing this goal (Knaff, Pettengill, Bevis and Kirechhoff, 1998).

For any research project the researcher must be clear about which method of research will yield the information required. Therefore, it is necessary for the researcher to ensure that the most appropriate method is selected. This can be done by considering the relative advantages and disadvantages of both quantitative and qualitative methods.

6.1.1 QUANTITATIVE RESEARCH

According to Creswell (1994, cited in Leedy, 1997, p.104), quantitative research is defined as "an inquiry into a social or human problem, based on testing a theory composed of variables, measured with numbers and analysed with statistical procedures, in order to determine whether the predictive generalisations of the theory hold true". Quantitative research is distinguished from qualitative research in that it is objective in nature. Quantitative research is concerned with quantifying a relationship or comparing two or more groups (McKereghan, 1998). Hopkins (1998) points out that the primary reason for conducting quantitative research is to explore and predict the number of people who have (or share) some characteristics, and to

generalise the findings to other persons in a population. Quantitative research intends to establish numerical measurement and reliable statistical predicability of results by utilising numerical data analysis. Similarly, Tull and Hawkins (1990) note that quantitative research methods were originally developed in the natural sciences to study natural phenomena.

One of the most useful quantitative methods is the survey. Survey research is defined as the systematic gathering of information from respondents for the purpose of understanding and predicting some aspects of behaviour of the population of interest (Alrect & Settle, 1985). The broad area of survey method encompasses any measurement procedures that involve asking questions of respondents. Indeed, survey research is the most common method of gathering primary data for marketing decisions (Tull & Hawkins, 1990). In addition, Zikmund (1996) notes that surveys provide a quick, inexpensive, efficient and accurate means of gathering information about the population. However, there are some disadvantages of using surveys, such as respondent error, non-response and response bias. These issues are discussed in section 6.6 of this study.

The quantitative stage of this research was designed to explore the evidence of environmentally friendly practice within the Phuket hotel industry. Survey research was deemed to be the most appropriate method to achieve this goal. O'Neill (2001) points out that surveys can provide data on attitudes, feelings, beliefs, past and intended behaviours, evidence of association, knowledge, ownership, personal demographic characteristics, and other descriptive items. Therefore, a mail survey of 220 hotels in Phuket was conducted in order to ascertain the level of environmental awareness and the degree of environmental practice by the Phuket hotel industry. The results of the survey questionnaires were analysed by using descriptive statistical methods.

6.1.2 QUALITATIVE RESEARCH

Traditionally, qualitative research rejects the idea that social sciences (such as education and training) can be studied with the same methods as the natural or physical sciences (Hoepfl, 1997). According to Strauss and Corbin (1990, p.17), qualitative research means, "any kind of research that produces findings not arrived at by means of statistical procedures or other means of quantification". Zikmund (1996) suggests that when an investigation is meant to be exploratory in nature, a qualitative investigation of the problem would be appropriate. McColl et al (1998) support this notion stating that qualitative research is the exploration and interpretation of the perceptions and behaviour of a small sample or target group. Since it employs an insider's perspective, qualitative research is an intensely personal and subjective style of research. As such, qualitative analysis results in a different type of knowledge than does quantitative inquiry.

Typically, the interview technique is used as a research tool to collect qualitative data. Zikmund (1996, p. 194) for example, defines the personal interview as "the gathering of information through face-to-face contact with individuals". This method is considered particularly useful for accessing conscious, subconscious and unconscious motivation (Arnould & Wallendorf, 1994; Dichter, 1964). Moreover, the interview technique allows the researcher to identify and assess emotions, values and attitudes by extra comment or observation (Clark, Wilkie and Wood, 1998). The personal interview is relatively flexible, more convenient and provides more reliable data compared to other methods such as mail surveys or questionnaires. Emory and Cooper (1991) support this notion stating that the conduct of personal interviews allows the researcher to improve the quality of the information received.

Patton (1990) mentions three basic types of qualitative interviewing; 1) the standardised open-ended interview, 2) the informal conversational interview, and 3) the semi-structured interview. In the standardised open-ended interview, the interviewer reads a standardised interview guide to the respondent and records the respondent's answers. The interviewer adheres to a strict procedure, and there is no flexibility in the wording or order of the questions. The informal conversational interview, on the other hand, is a data collection method in which an interviewer

adapts and modifies the interview for each interviewee. This type of interview is flexible and has no strict procedure. Thus, it is likely to produce information or insights that the interviewer could not have anticipated. The semi-structured interview is the one that contains elements of both structure and unstructured interviews. It is designed with a fairly open framework, which allow for focused, conversational, and two-way communication. While the semi-structured interview involves the preparation of interview questions in advance, it allows the interviewer and the interviewee more flexibility to explore or discuss issues in some extend questions (Wengraf, 2001). In this research, interviews were used to examine the degree of environmentally friendly consciousness within the Phuket hotel industry. The semi-structured interview was deemed to be the best tool to give insight into how individual hotel operators conduct their businesses and how their operations impact on the environment.

In the context of this study, the qualitative stage of the research examines the motivation behind current environmentally friendly practice in the Phuket hotel industry. Twenty-five hotel managers were interviewed to gain insight as to the motivation(s) behind existing environmentally friendly practice within the Phuket hotel industry and to learn something of how operators reconcile differences between conducting a successful business and developing/maintaining an environmental ethic.

6.2 CROSS SECTIONAL VERSUS LONGITUDINAL STUDIES

One of the most fundamental distinctions in any research design is the time dimension. Zikmund (1996) points out that some studies are individual projects carried out once and representing a snapshot at one point of time; others are repeated over an extended period of time. Therefore, it is possible to classify research on a temporal basis, whether it is cross sectional or longitudinal study.

A longitudinal study is one that takes place over time. It can be defined simply as one or more groups of participants studied at several points in time, generally to investigate a set of developmental variables (Powers & Knapp, 1995). According to Menard (1991), the two primary purposes of longitudinal research are (1) to observe

patterns of change that occur over time, and (2) to describe the direction and magnitude of causal relationships between variables. Furthermore, longitudinal designs pose several disadvantages and challenges. Participant attrition is the greatest challenge to longitudinal research. The method provides information describing processes and comprehensive data on changes over time. However, maintaining contact with and commitment to the participants in the study can be very costly in time, research personnel and money.

A cross-sectional study, on the other hand is one that takes place at a single point in time. Hussey and Hussey (1997, p.60) note that "a cross-sectional study involves researching a sample of elements from the population of interest over a short period of time. Such studies sample various segments of the population sample so that relationships among variables may be investigated by cross-tabulation". One advantage of cross-sectional research is that it is more economical in terms of time and budget. The participants only experience a short period of data collection, and the researcher is not faced with the difficulty and cost of maintaining contact with subjects over a long period of time (Creswell, 1998; Emory & Cooper, 1991). In other words, a cross-sectional research study gives a snapshot of what is happening at a certain point in time and is less resource intensive.

This study was conducted within the constraints of time and resources. The data was collected over a short period of time before it was analysed and reported. Therefore, this study has been classified cross sectional in nature.

6.3 RESEARCH SETTING

Having decided upon an appropriate research design, it then proved necessary to consider the particular setting for the study. The research setting for this study was Phuket Island, one of Asia and Thailand's premier resort destinations. Phuket fits into the study as its tourism and hospitality industry plays a significant role in Thailand's economy. Phuket is highly popular with travellers from Europe and Asia. It boasts a good selection of holiday resorts ranging from the high-end luxury to budget accommodation. Additionally, the diversion of inbound arrivals from the

resort's closest competitor, Bali, because of Indonesia's political and social instability, has boosted Phuket's hotel performance (Knotogeorgopoulos, 1998).

According to the Tourism Authority of Thailand (2000 a.), Phuket has more than 200 hotels and other types of tourist accommodation, with approximately 20,500 rooms in 2000. Tourist accommodation on the island is segmented into a number of key areas. The majority of tourist accommodation is located along the western side of the island. Five star hotels are concentrated in the northwestern part, which boasts excellent beaches. Lower to mid tier tourist accommodation, targeting the budget travellers, is largely situated in the southern part of Phuket, close to the Patong Beach and the entertainment district.

Despite its success, however, the Phuket tourism and hospitality industry is not without problems and controversy. Phuket is what many environmentalists call a textbook case of rampant, unplanned development, resulting in widespread ecological degradation and pollution. The famous Patong Beach in Phuket, for example, has become so polluted that fish and other marine life has been destroyed. As a growing number of consumers make decisions based on environmental considerations, and as hotels play a significant role in the economic and social development of Thailand, the Phuket hotel industry needs to introduce a number of changes to run in an ecologically friendly manner. Therefore, it is fundamental to examine the environmental consciousness, action and performance of the Phuket hotel industry.

6.4 THE RESEARCH SAMPLE

As stated previously, the research design selected for this study employed a combination of both quantitative and qualitative methods. The quantitative stage of this research was designed to gather evidence of environmentally friendly practice within the Phuket hotel industry, whereas the qualitative stage was designed to examine the motivation(s) behind current environmental practice within the Phuket hotel industry. As such, the sample frame chosen for both stages of the study included:

- All Phuket hotel operators classified by the Thai Hotel Association (THA), and
- A random, yet representative stratified sample of managers from all THA classification types.

6.4.1 QUANTITATIVE SAMPLE DATA

The term population refers to the entire set of any items such as people, objects or events that are under consideration for research purposes (Clark et al, 1998). Therefore, the population element of this study contained the total number of hotels that are located in Phuket province. According to the Tourism Authority of Thailand (2000 a), there were a total of 245 hotel properties located in the area of Phuket in the year 2001. It was a stipulation that these hotels were classified by the star rating used by the Thai Hotel Association (1-5 star rating system) in order to ensure some form of standardisation within and between establishments and classifications. That said, the actual sample population for survey administration consisted of 220 hotels, with 25 properties being excluded due to their involvement in the supporting qualitative study. The primary reason that these 25 properties were excluded from the main postal survey was due to the fact that as interview subjects they would have had prior notice of the scope of the study and thus may have been biased in terms of the answers they would give. In other words the researcher was concerned with the direction taken in relation to their answers may have been a misrepresentation of the truth.

The administration of the questionnaire was carried out in a four-week period (15th September 2001 – 15th October 2001). The 220 hoteliers were sent a questionnaire together with a covering letter explaining the objectives of the research - a prepaid addressed envelope was enclosed. A follow up telephone call to those respondents who had not replied was undertaken five weeks after the questionnaires were mailed. Of the 220 questionnaires administered at the first stage, only 95 returns were received by the appointed dead line date (15th October 2001). This represented approximately 43% of the total sample frame and is further support for Zikmund's (1996) contention that a typical response rate for such mail surveys is around 30%. Similarly, Dillman (1972, cited in Emory & Cooper, 1991, p.333) points out that

reconciled the differences between conducting a business and developing an environmental ethic.

6.8 DATA ANALYSIS

The procedures for analysis data were divided into the following steps:

Step 1: Quantitative Data Analysis

Data from returned questionnaires was analysed using the Statistical Software Package for the Social Sciences (SPSS), Version 10.00 for Windows. The use of this software allowed the researcher to calculate the mean scores for each response and to cross-tabulate variables between different hotels and their approaches to environmentally friendly practice.

Step 2: Qualitative Data Analysis

Bogdan and Biklen (1982, p.145) define qualitative data analysis as "working with data, organising it, breaking it into manageable units, synthesising it, searching for patterns, discovering what is important and what is to be learned, and deciding what you will tell others". Patton (1990) points out that qualitative research tends to use inductive analysis of data. There are a number of different techniques that can be used to analyse such data such as narrative analysis, content analysis, grounded theory, coding, theme analysis or cross case analysis (Huberman & Miles, 1994; Manning & Cullum-Swan, 1994). Huberman and Miles (1994) suggest that coding is an appropriate data analysis choice as it allows large amounts of information to be broken down into smaller sections of similar information.

Theme analysis and coding were most appropriate for this research. Analysis began with identification of themes emerging from the raw data, a process sometimes referred to as "open coding" (Strauss & Corbin, 1990) During open coding, conceptual categories were identified and tentatively named. Words, phrases or events that appear to be similar were grouped into the same category. The next stage involved re-examination of the categories to determine how, if at all, the data are linked. The discrete categories identified in open coding were compared and

combined in the ways as the researcher began to assemble the big picture. Finally, the researcher translated the conceptual model into a story line.

6.9 PILOT WORK

To inform, inspire and strengthen the design of the qualitative stage of this study, a pilot study was conducted during the period of 17th October 2001 – 23rd October 2001. As stated previously, the primary purpose of the pilot stage was to hone the skills of the researcher and to indicate the possible directions that the interview questions might take. The researcher drew a resort manager from each resort classification or five resort managers in all for the purpose of conducting this exercise. As with the main qualitative study this was done using a stratified sampling method. The researcher then made appointments for conducting the personal interviews with the resort managers in question. The interviews, which took approximately 20-31 minutes, were held at resorts chosen to be the subjects within a one weeks period. The collected information, the overall experience and insight from implementing these pilot interviews, assisted the researcher in the formulation of questions for the final interviews with the twenty-five hotel managers.

In summary, the pilot study showed that the original scope of the interview questions was rather expansive and needed to be modified to adapt to examine the degree of environmentally friendly consciousness within the Phuket hotel industry. Thus, the magnitude of the scope of data collection and analysis was to be narrowed down, making it much easier to undertake the main qualitative interviews.

Of those that participated, there were 3 male and 2 female respondents. Participants' work positions consisted of four resort managers and one assistant general manager. All of the participants were Thai citizens. The length of the pilot interviews ranged from 20 minutes to 31 minutes, an average of 23 minutes per interview. Table 5 indicates the demographic profile of the subjects, the length of the interviews and the corresponding word count per subject.

Table 5: Demographic Profiles of the Subjects and Interview Details

Subjects	Gender		Nationality		Job Positions	Length of Interview	
	Male	Female	Thai	Foreigner		Time (Min s)	Word Count
1	√		√	-	G.M.	22.30	657
2		√	√	-	G.M.	30.15	883
3		√	√	-	G.M.	25.32	698
4	√		√	-	Ass. G.M.	21.30	570
5	√		√	-	G.M.	20.45	522
Total Mean	3	2	5			23.90	666

The pilot study served its purpose extremely well. Through these five initial interviews, it was found that most resort managers seem to agree on a number of issues. Table 6 provides a summary of the attitudes of those interviewed towards some of the major issues raised during the course of the interviews. Where yes or no positions could be established, the appropriate response is printed. Those fields left blank indicate the lack of a definitive position on the issues raised.

In a preliminary investigation of the responses recorded, it was revealed that most resort managers were aware of and sensitive to environmental issues and the impact of the tourism industry on Phuket Island's environment. Most of the respondents agreed that the present environmental problems experienced by Phuket province are the result of a lack of strict environmental regulation and corruption in Thai society. Major environmental issues of concern within the Phuket Province included waste disposal, water pollution, and uncontrolled tourist access. Respondents concluded that the management of the island's natural environment is necessary and the instigation of environmentally friendly practices should be given priority by both government and industry. Each of the respondents agreed that the initiation of environmentally friendly practices as well as the concept of environmentally friendly hotels is somewhat hesitant and piecemeal because of a serious lack of commitment on the part of the hotel industry in performing its role. For instance, it was suggested that the Phuket hotel industry does not have the necessary technical skills, manpower, technology and financial resources needed to be environmentally sound. More specifically, it was suggested that current environmental problems have arisen

from a lack of environmental awareness and a lack of proper understanding and management technology in operating businesses and maintaining the standard of the surrounding environment.

Table 6: Key Issues and Respondent Attitudes (Pilot Study)

Issue	R-1	R-2	R-3	R-4	R-5
Is the management of environment by hospitality and tourism industry in the Phuket province is necessary?	No	Yes	Yes	Yes	Yes
Should the adoption of environmentally friendly practices be introduced and enforced?	Yes	No	Yes	Yes	Yes
Will the hotel industry increasingly be pressured by the government environmental regulations?	No	No	No	No	No
Will the hotel industry increasing be pressured by the society or the consumers to take action on the present environmental issues?	No	No	No	No	N/A
Should it be advantage for the hotels to adopting environmentally friendly practices?	Yes	Yes	Yes	Yes	Yes
Should the adoption of environmental practices enhance a property's quality and service?	Yes	No	Yes	Yes	No
Should the adoption of environmental practices contribute to a hotel's image and competitive marketing?	No	Yes	Yes	No	No
Should the adoption of environmental practices increase the number of consumers?	No	No	No	No	No
Should the adoption of environmental practices benefit the long-term financial advantage?	Yes	Yes	Yes	Yes	Yes
Are the current environmental efforts within the Phuket hotel industry are most driven by the environmental consciousness of the hotel operators?	Yes	No	No	No	No
Is the search for the competitive, operational and financial advantage of the Phuket hotel industry lead to the adoption of environmentally friendly practices?	Yes	Yes	Yes	Yes	Yes

Most resort managers acknowledged the relative advantages in adopting environmentally friendly practices including enhancement of their property's quality and service and long-term financial advantage. That said, a number of respondents did not agree that the adoption of environmentally friendly practices would contribute to enhancing a hotel's image and competitive marketing advantage. Moreover, they did not think that an environmentally friendly hotel would have any greater potential to attract or increase the number of consumers than non-environmentally focused hotels.

It is also surprising that most of the resort managers argued that only a few of their consumers demand to stay in green hotels or require them to run the businesses in line with protecting the environment. Three resort managers claimed that most of their guests are not aware of environmental issues. Moreover, they also pointed out that some of their guests do not practice good environmental stewardship. Therefore, most resort managers believed that the concept of an environmentally friendly hotel is unrealistic.

There is evidence that certain resorts in Phuket province have implemented some environmentally friendly practices within their day-to-day operations. For example, the five resorts included in the pilot are most effective on waste and energy management issues. They have installed key tags in all guestrooms, replaced normal bulbs with low-energy bulbs, implemented Solar Cell hot water systems and installed environmental notice signs in all guests' bathrooms.

While most of those interviewed agreed that the greater responsibility for environmental stewardship rests with the public sector, they do suggest that there is evidence to suggest that the adoption of such practices within the private sector has resulted from operational and financial advantages rather than from environmental consciousness.

One interesting issue that arose from the pilot interviews was that one resort manager requested that government and related tourism organizations should establish an environmental center to educate and assist hotel operators and other business operators to conduct environmentally friendly practices. In general, these interviews showed that a lack of knowledge and technology has prevented the Phuket hotel industry from turning green.

6.10 ETHICAL CONSIDERATIONS

Denzin and Lincoln (1994) point out that researchers are normally confronted with concerns about informed consent, right to privacy, and protection from harm. Within this study, a variety of ethical considerations were implemented to ensure that the subjects' rights were not transgressed including. Firstly, ethics approval (18/09/01) from the Human Research Ethics Committee at Edith Cowan University was conditional upon the observance of recognised ethical procedures in the administration of questionnaires and personal interviews. Secondly, the covering letter briefly stated the aims of the research in order to give prospective participants an idea of the research project and the intent of the proposed questionnaire. Moreover, the covering letter stated an assurance of confidentiality and anonymity of the participants. Thirdly, the researcher and supervisor were identified by name, address and telephone number in the covering letter and questionnaire. Therefore, participants could contact them to discuss any query that might arise as a result of completing the questionnaire. Fourthly, the respective participants were invited to sign a consent form indicating that they participated willingly in the study. In addition, participants were specifically advised that no names and addresses, or other identifying information should be entered on the questionnaire. Fifthly, all information from both questionnaires and interviews are being temporarily stored in the researchers home in Phuket. Access to the data was only available to the researcher and the supervisor. After a period of three years, all data will be destroyed. Finally, it is clear that all stage of the research were conducted by the researcher. This ensured that analysis could be conducted at every stage contributing to clarification and continuity of subject matter.

6.11 SUMMARY

The method employed within this study relied upon a combination of both quantitative and qualitative methods. A quantitative survey was deemed essential in order to explore the evidence of environmentally friendly practice within the Phuket hotel industry. Moreover, the study was also concerned with discovering the motivation behind current environmentally friendly practice by the Phuket hotel industry. A more qualitative approach was deemed appropriate in this instance. It is hoped that the combination of quantitative and qualitative methods will enhance the predictive validity of the research findings and would give insight that neither type of analysis could provide alone.

CHAPTER 7
FINDINGS AND RESULTS

7.0 INTRODUCTION

This chapter presents the results of the present study and is divided into two major sections. Section one provides a brief demographic description of the returned questionnaires as well as a detailed statistical analysis of the results of the more quantitative stage of the research. A descriptive statistical analysis (percentages and averages) was used to evaluate evidence of environmentally friendly practices within the Phuket hotel industry. Additionally, responses were tested for any evidence of correlation between current practice and actual hotel classification. Section two details the results of the qualitative interviews conducted in order to address the issue of motivation for environmentally friendly practice. Data was gathered from 25 hotel managers in Phuket Province, using the semi-structured interview technique. These managers were chosen using random stratified sampling and excluded from the main postal survey. Those responses common and unique to the subjects were categorised into several themes by an inductive and deductive analysis of the transcripts. As much as possible an attempt shall be made to separate the reporting of the results from the discussion and interpretation of the results, which shall be reserved for the next chapter.

7.1 QUANTITATIVE DATA FROM THE MAIL SURVEY

7.1.1 RESPONSE RATE

On the 15th September 2001, two hundred and twenty questionnaires were mailed to 220 hotel properties located in Phuket province. Over the next four weeks 95 of these were returned in the reply paid envelopes provided representing an initial response rate of 43.18%. This was followed by a second mail-out to non-respondents some five weeks later (22/10/01), leading to a further 54 completed surveys being returned for analysis. In total, therefore, 149 questionnaires were collected from the mail survey, representing a total response rate (initial and late) for this survey of 67.73%.

This, of course, raises the very complicated issue of late and/or non-response bias, the existence of which may cast doubt on the reliability and validity of the actual research findings, thereby limiting the ability of the researcher to generalise findings from a respondent sample to a population of interest. According to Churchill (1996) this represents a failure to obtain information "late or at all" from some elements of the population selected and designated for the sample. The preceding analysis makes it clear that approximately 25% of the sample population (54 respondents) responded late during the survey administration and that approximately 32% of the sample population (71 properties) failed to respond at all to the survey. Naturally this raises some concern as to whether such a large late and/or non-response rate might actually bias the research results? In addition the question needs to be addressed as to whether any response obtained from late respondents might be significantly different from that obtained from initial stage-two respondents? It was deemed necessary, therefore, to conduct a series of checks addressing these very issues. Given that it is by definition impossible to measure the views of non-respondents, the views of the late-respondent group were used as a surrogate in this instance. The non-response test indicated that there were no significant differences between early and late responses. As such, non-response bias was deemed negligible.

7.1.2 DEMOGRAPHIC PROFILE OF RESPONDENTS

According to the Tourism Authority of Thailand (2000 a.), there were approximately 220 hotel properties located in Phuket during the year 2001. These 220 hotels, which are classified based on the star rating used by Thai Hotel Association, consisted of 61 "one star hotels", 57 "two star hotels", 64 "three star hotels", 27 "four star hotels", and 11 "five star hotels". These figures show that "three star hotels" represent the majority of the Phuket hotel industry (29.10%), followed by "one star hotels" (27.73%), "two star hotels" (25.90%), "four star hotels" (12.27%), and "five star hotels" (5%).

Respondents consisted of 95 early respondents and 54 late respondents or 149 respondents' altogether, representing a total response rate of 67.73%. When classified based on their respective Thai Hotel Association star ratings, these include 34 "one star hotels" (22.82%), 30 "two star hotels" (20.13%), 49 "three star hotels"

(32.89%), 27 "four star hotels" (18.12%), and 9 "five star hotels" (6.04%). The percentage of overall hotel respondents to this study is shown in figure 9.

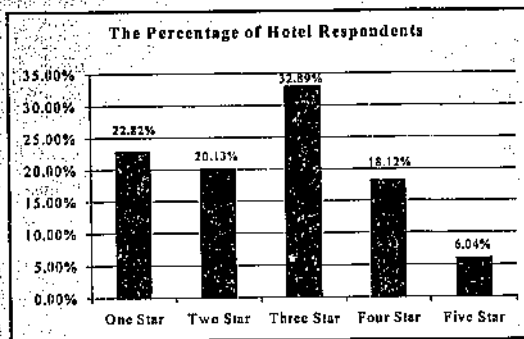


Figure 9: The Percentage of Total Hotels Respondents

This study found that most hotels in Phuket are small properties with under 50 rooms (38.93%), followed by 50-99 rooms (19.46%), 100-149 rooms (12.75%), more than 250 rooms (11.41%), 150-199 rooms (9.40%) and between 200-249 rooms (8.05%). Additionally, the majority of Phuket hotels were described as being operated by independent entrepreneurs (owner/operators) (61.74%), followed by hotel chain-owner/operators (16.11%), independent-management contracts (14.77%), chain-management contracts (5.37%) and franchises (2.01%).

7.1.3 DESCRIPTION OF RETURNED QUESTIONNAIRES

The questionnaire used in this study was adapted from Dowdell and Dowling (1996) in their study entitled *The Greening of Perth's Hotels*. The questionnaire consisted of 5 sections. The first four sections included a series of discontinuous yes/no questions targeted at each of the major hotel operational areas including; the housekeeping, maintenance, administration and kitchen and restaurant departments. The last section of the questionnaire inquired about the demographic profile of hotels and managers' concerns about environmental issues. The questionnaire also included open questions within each section inviting respondents to provide further detailed information if deemed appropriate. A section by section, question by question

analysis of returned questionnaires shall now follow and key statistical evidence will be provided where appropriate on the nature and extent of any correlation proven to exist with respect to environmental practice in each of these key areas and actual hotel classification.

7.1.3.1 The Housekeeping Department

The first section of the survey questionnaire aimed to identify the extent of current environmental practice within the housekeeping department of the hotels. As careless housekeeping can result in more waste being generated than necessary, improving hotel housekeeping practices is often the most effective and least expensive way to reduce waste and prevent pollutants. An example of good housekeeping includes an inventory of all products and waste, efficient operating procedures, using raw materials sparingly or installing flow meters, flow control devices, and shut-off nozzles to cut down on water usage.

Question 1: How often does the hotel provide sheet changes?

The majority of respondents indicated that they changed sheets every day (83.89%). The remainder stated that they provided sheet changes every second day (10.07%), more than three days (4.7%) and every 3rd day (1.34%), respectively.

Question 2: How often does the hotel change towels?

The majority of the hotel respondents (92.62%) stated that towels were generally changed everyday. Only 5.37% of the hotel respondents indicated that they made an effort to reduce total water consumption by changing towels in guestrooms no more than every 3rd day.

It is evidence that the laundry operation of a hotel consumes a lot of water and can have an enormous impact on the environment. This includes the large amount of energy and water for cleaning and finishing processes and the use of chemical products that can cause air pollution, toxic waste and sewage problems. However, the results above demonstrate that most respondents did not seem to mind this situation.

Question 3: Are individually packaged goods used in room? If so, what is done with the unused portions?

The packaging of individual items is still common with up to five or six items in some rooms for example; soap, shampoo, cotton buds, lotion, shower caps, or shoe shine products. With respect to the methods dealing with the unused portions, the majority of respondents stated that they have provided small bottles for soaps and other bathroom amenities (51.68%). Approximately 31% of hotels indicated that they have installed dispensers in the guest's bathroom, while only a small number of the hotels surveyed (17.45%) indicated that they do not equip guestrooms with a dispenser system. These respondents also indicated that they did not have a system to keep the unused portions of plastic soap and shampoo bottle. Figure 10 below shows the methods used to handle unused cosmetic bathroom products.

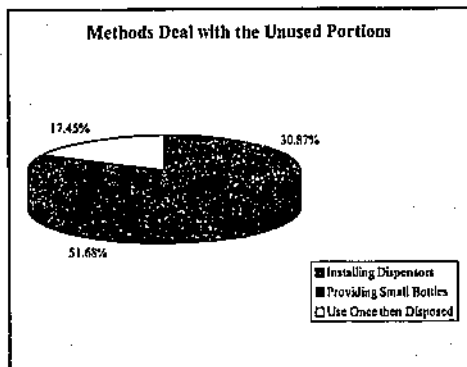


Figure 10: Methods Used to Handle Unused Cosmetic Bathroom Products

Question 4: Are any aerosols used when cleaning the rooms?

The housekeeping departments of the hotels surveyed were asked whether they used aerosols when cleaning guestrooms. Only a small number of the respondents answered yes (23%), while the remaining 77% of respondents stated that they did not use any aerosols when cleaning rooms.

Question 5: Are the cleaning products used low impact environmental products/biodegradable? If no, why not?

It appeared that 74.5% of the hotels surveyed stated that they used low impact environmental products in guestrooms. Those respondents (8.05%) who gave a "no" answer indicated that they could not afford to use biodegradable products due to both their relative expense and availability, in that they are not sold widely in Phuket.

Question 6: Are any items left in the rooms recycled? And what kinds of materials in guestrooms are recycled?

Generally there are many materials in guestrooms that could be recycled. The majority of hotel respondents (73.83%) indicated that they recycled items that were left in rooms. Papers and coat hangers were the two items most commonly recycled (62.83% and 55.70%, respectively), followed by glass bottles (38.26%), plastic containers (32.21%) and aluminium cans (24.83%). Figure 11 below shows the percentage of items that are recycled from guestrooms.

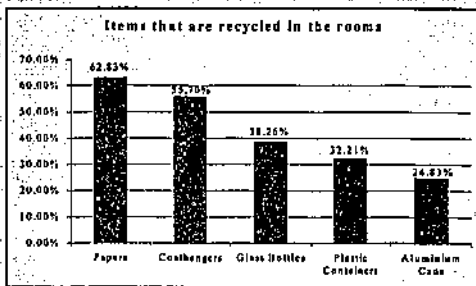


Figure 11: Items left in Rooms that are Recycled

Question 7: Do cleaners use any disposable products when cleaning rooms?

This question was answered by 96% of respondents, with a total of 63.76% indicating that they used disposable products when cleaning rooms. These items consisted of gloves, plastic rubbish bags, air refreshers and other chemical cleaning products.

Question 8: Are key tags used in rooms for lights?

Energy consumption is of primary concern due to the substantial cost. In the hotels surveyed, the majority of the respondents (69.80%) indicated that they used key tags for controlling electricity usage in guestrooms. This implied that most of the respondents made an effort to cut electricity consumption that could result in a more direct and significant impact on the total cost of energy consumption in a hotel.

Question 9: Are toilets dual flush? If no, are any other measures taken to reduce water use?

Water conservation is another effective way to maintain the environment and save on operations costs. However, it was found that the hotels surveyed do not show a strong awareness of this issue. This is illustrated by the fact that only a small number of the hotel respondents (32.21%) have installed dual flush toilets. A few respondents who did not install dual flush toilets indicated that they had other strategies to reduce water usage for example; placing a brick in the cistern, installing smaller cisterns, or adjusting the plumbing valve.

Question 10: Are showers fitted with low-flow showerheads?

This question was answered by 100% of the respondents. Some 59.7% of the respondents stated that they had installed low-flow showerheads within their hotel properties.

Question 11: Are taps fitted with aerators?

This question was also answered by 100% of the respondents, with only a small number of the respondents (31.5%) stating that they had installed aerators on taps.

Question 12: Are newspapers delivered to rooms?

One of the most common waste reduction strategies in guestroom is providing newspaper on request only. The majority of respondents answered with "no" (81.88%), and the remainder were either "yes" (16.78%) or did not respond (1.34%).

Question 13: Do you have any other comments about the environmental practices of the housekeeping department of this hotel?

This open-ended question asked respondents to give further evidence of environmentally friendly practices within the housekeeping department of the hotel.

The question was answered by 18.12% of respondents. The answers included:

- Educating and supporting staff to be more environmental sensitive;
- Decorating rooms by using natural and local products;
- Providing air cleaners with carbon filters and ionisers to guests on request;
- Purchasing low impact environmental products;
- Placing an environmental sign to warn guests;
- Supplying a bin for recyclable wastes in each room;
- Separating rubbish in special bins; and
- Supporting the use of natural products instead of perfumed chemical based products.

7.1.3.1.1 Key Correctional Data from the Housekeeping Department

Whilst beyond the remit of the study, it nonetheless proved interesting to explore for key differences in approach with respect to actual housekeeping practice between the various hotel classification groups represented within the sample. In short, the researcher was keen to explore whether any correlation existed between hotel classification and actual provision in the housekeeping area. More importantly, whether a significant difference in approach existed between the different hotel classifications represented. To this end, a series of chi-square cross tabulation tests were run using questions 3 to 11 (Part 1) to determine if there was a correlation between any of the above environmentally friendly housekeeping practices and actual hotel classification. Table 5 below summarises the key correlation data between the environmentally friendly practices within the housekeeping department and hotel classifications.

Table 5: The Key Correlation between Hotel Classification and Environmentally Friendly Practices within the Housekeeping Department

Some Key Environmentally Friendly Practices within the Housekeeping Department												
<i>Methods that deal with the unused cosmetic bathroom products</i>												
	One Star		Two Star		Three Star		Four Star		Five Star		X ²	P
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No		
1. Installing dispensers	14.7%	-	20%	-	30.6%	-	48.1%	-	77.8%	-	27.05	.001
2. Providing small bottles	52.9%	-	53.3%	-	55.1%	-	51.9%	-	22.2%	-		
3. Use once then disposes	32.4%	-	26.7%	-	14.3%	-	0%	-	0%	-		
<i>Environmentally Friendly Practices within Guestrooms</i>												
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	X ²	P
	4. Biodegradable products	58.8%	41.2%	66.7%	33.3%	77.6%	22.4%	88.9%	11.1%	100%	0%	11.62
5. Aerosols	6.1%	93.9%	26.7%	73.3%	24.5%	75.5%	30.8%	69.2%	44.4%	55.6%	8.82	.06
6. Disposable products	48.5%	51.5%	62.1%	37.9%	80.9%	19.1%	76%	24%	44.4%	56.6%	12.37	.01
7. Key tags	41.2%	58.8%	60%	40%	85.7%	14.3%	88.9%	11.1%	66.7%	33.3%	25.17	.00
8. Recycled	44.1%	55.9%	66.7%	33.3%	81.6%	18.4%	96.3%	3.7%	100%	0%	28.11	.00
<i>Water Management Strategies within Guestrooms</i>												
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	X ²	P
	9. Low-flow showerheads	44.1%	55.9%	46.7%	53.3%	71.4%	28.6%	63%	37%	88.9%	11.1%	11.66
10. Dual flush toilets	20.6%	79.4%	30%	70%	44.9%	55.1%	33.3%	66.7%	11.1%	88.9%	7.63	.10
11. Aerator	20.6%	79.4%	26.7%	73.3%	38.8%	61.2%	37%	63%	33.3%	66.7%	3.79	.43

(% within hotel)

($\alpha = .05$)

Looking firstly at the issue of unused bathroom products The results indicate a significant difference at the level of 1% ($P < .05$) between the approach taken to deal with this issue. This suggests that most hotels with higher classifications are more likely to have a system to handle these products than those hotels with lower classifications (Table 5). Moving on the practice within actual guest rooms, the results of a series of cross tabulation tests (questions 4 to 8 - Part I) indicate that typically hotels with higher classifications seem more concerned about environmentally friendly practices within guestrooms than hotels with lower

classifications. Chi-square results were significantly different ($P < .05$) for all products with the exception of aerosol sprays where the P value equalled .06 (Table 5).

Cross tabulation tests were also run on questions 9 to 11 to determine if there was a correlation between the water management strategies utilised by the various housekeeping departments and hotel classification. Results revealed an insignificant degree of correlation between classification and the provision of dual flush toilets and tap aerators ($P = .10, P > 0.5$; $P = .43, P > .05$ respectively). That said, tests did reveal a statistically significant correlation between the provision of low-flow showerheads and actual classification type ($P = .02, P < .05$). This indicates that hotels with higher classifications tend to be the only ones taking positive action by implementing low-flow showerheads.

7.1.3.2 The Maintenance and Engineering Department

The maintenance of a hotel's assets, specifically inventories of such items as televisions, air conditioners or heaters, is an important function of the hotel's maintenance department. Generally, the maintenance department is on call 24 hours a day for general assistance with the entire technical operations of the hotel. This includes the engineering, electrical, and mechanical divisions, whose activities have the most environmental impact. As such, this is another area that might potentially have a significant impact upon the environment. This section of the questionnaire addressed the issue of current environmental practice within the maintenance department of the Phuket hotel industry, covering details from the introduction of energy efficient light globes to the installation of ceiling insulation in suites.

Question 14: What types of lights are used in your hotel properties?

Lighting system is one of the areas where significant energy savings can be achieved. This question asked respondents to specify the type of lighting system used in the following main areas including; rooms, lobby, outdoors and hallways. The most popular form of lighting used in the hotels surveyed were low-energy bulbs, with the highest occurrence in the lobby (71.81%), followed by the guestrooms (69.80%), hallways (67.11%) and outdoor areas (59.06%). Less than

30% of other hotel areas, except in guestrooms, installed normal bulbs (26.17% in outdoor areas, 24.83% in the lobby and 23.49% in hallways). Only a small number of the hotels surveyed stated that they used fluorescent bulbs and spot light bulbs in the overall hotel areas. These indicate that most hotels in Phuket are showing some evidence of environmentally friendly practice based on the energy consumption. Figure 12 shows the percentage of the types of lights used by the hotel respondents.

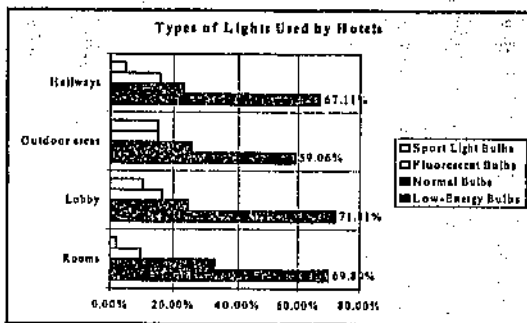


Figure 12: Types of Lights Used by Hotels

Question 15: Is grey water (ie: water from laundry or roof runoff) used by the hotel?

The use of grey water is another opportunity for hotels to reduce water consumption. However, it appears that the majority of the respondents (75.17%) were not concerned with this option. Only a small number of respondents (22.15%) stated that they made an effort to reduce water consumption by using grey water, while the remainder (2.68%) did not respond to this question.

Question 16: What chemicals are used in the swimming pool(s) and/or spa(s)?

Approximately 60% of all respondents indicated that they provided swimming pools and spas within their properties. The most popular chemicals used by hotels for cleaning swimming pools and spas was chlorine (64.77%), followed by soda ash (30.68%), aluminium sulphate (1.13%), anti-algae (1.13%), copper sulphate (1.13%) and potash alum (1.13%), respectively.

Question 17: Are any of these chemicals environmentally friendly? If no, has the hotel considered using more environmentally friendly products?

This question asked respondents to tick either "yes" or "no" and specify their answers. The question was answered by 61.74% of respondents, of whom 41.61% answered with "yes". Of the 20.13% "no" answers, only seven respondents provided the reasons that were that those environmental products are expensive and are not sold widely in Phuket.

Question 18: Are routine services conducted on: air conditioners, microwaves, hot water system and refrigerators?

In terms of the routine service conducted on electrical appliances, the respondents were asked to tick either "yes" or "no" and specify their answers. It appeared that air conditioners had the highest count for routine services (90.60%), followed by refrigerators (70.48%), hot water system (67.11%) and microwaves (48.32%). Moreover, these routine services are generally conducted at monthly intervals. Table 6 shows the results for routine services conducted on electrical appliances.

Table 6: Routine Services Conducted on Electrical Appliances

Appliance	Routine Services Conducted on Electrical Appliances						
	Percentages of the Respondents			Schedules			
	Yes	No	No Answer	Daily ^a	Weekly ^a	Monthly ^a	Yearly ^a
Air Conditioners	90.60%	7.38%	2.02%	8	24	80	23
Microwaves	48.32%	36.24%	15.44%	5	16	46	5
Hot Water Machines	67.11%	23.49%	9.40%	15	18	50	6
Refrigerators	70.48%	20.80%	8.72%	13	20	62	9

^aTotals are for appliances that are serviced only

Question 19: Are energy audits conducted?

Conducting regular energy audits can assist hoteliers in planning and provide considerable cost savings. Energy auditing was carried out by the majority of the respondents. In fact, 79.37% of the hotels surveyed stated that their maintenance departments performed energy regular audits. No indication was provided however as to how often these audits were conducted.

Question 20: Is the hotel building insulated?

There are a number of options available for hotels to reduce their energy consumption. These include the use of curtains and double-glazed windows in guestrooms or the installation of the building insulation. However, it was found that a small number of hotels (30.87%) had installed building insulation (Figure 13).

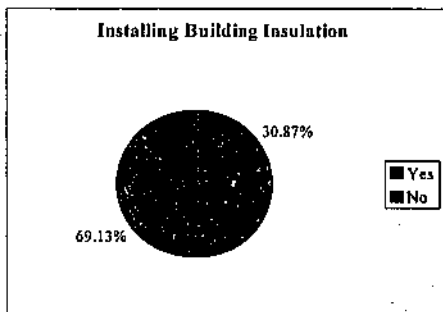


Figure 13: Installing Building Insulation

Question 21: Are curtains tightly fitted around windows?

It was found that the majority of the respondents answered this question affirmatively (87.25%), while the remainder (12.75%) stated that they do not install curtains properly around windows.

Question 22: Are windows double-glazed?

Very few properties invested in the provision of double glazed windows. This is illustrated by the fact that most respondents (76.51%) answered "no" to this question, while the remainder (23.49%) answered "yes".

Question 23: Do you have any comments about the environmental practices of the maintenance department of this hotel?

This open-ended question provided respondents with the opportunity to offer further insight as to environmentally friendly provision in the area of hotel maintenance.

However, only a small number (15.44%) responded to this question. The comments included the carrying out of ISO 9002 approved maintenance standards, the use of micro-organisms for cleaning, the installation of insulation film on windows, controlling the use of air conditioners, and the recycling of used water. One hotel stated that it has recently implemented a new system for cutting down on chlorine consumption in the swimming pool by using natural salt.

7.1.3.2.1 Key Correctional Data from the Maintenance Department

As with that preceding room related analysis, cross tabulation tests were run on those maintenance related questions 15 to 22 to determine if there was a correlation between hotel classification type and environmentally friendly practice in the key area of maintenance provision (Table 7).

Table 7: The Correlation between Hotel Classification and Environmentally Friendly Practices within the Hotel's Maintenance Departments

	One Star		Two Star		Three Star		Four Star		Five Star		N	P
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No		
Building Insulation	23.5%	76.5%	26.7%	73.3%	38.8%	61.2%	25.9%	74.1%	44.4%	55.6%	3.62	.45
Installing Double-Glazed Windows	29.4%	70.6%	16.7%	83.3%	22.4%	77.6%	22.2%	77.8%	33.3%	66.7%	1.97	.74
Installing Curtains properly around Windows	70.6%	29.4%	86.7%	13.3%	98%	2%	92.6%	7.4%	77.8%	22.2%	14.96	.00
Conducting of Energy Audits	52.9%	47.1%	80%	20%	85.7%	14.3%	96.3%	3.7%	100%	0%	23.17	.00
Recycling of Grey Water	9.1%	90.9%	6.7%	93.3%	18.8%	81.2%	40%	60%	100%	0%	43.13	.00

(% within hotel)

($\alpha = .05$)

Once again, there is evidence that hotels with higher classifications generally seem more concerned and aware of environmentally friendly practice within their maintenance departments than hotels with lower classifications. Results from a series of chi-square tests were significant at the 1% level ($P < .05$) between classification type and the provision of curtains, conducting regular energy audits and recycling grey water. That said, there was little difference in approach between classification type and provision of insulation and double-glazed windows ($P > .05$).

7.1.3.3 The Administration Department

The third section of the questionnaire collected evidence on the extent of environmentally friendly practice within the administration departments of the hotels surveyed. The administrative department of a hotel, like most business establishments, consumes large volumes of paper, cardboard and plastic. It is widely acknowledged that this waste is costly to dispose of and can, if not managed properly, cause serious damage to the environment. As such, waste prevention in the hotel office department usually focuses on the issue of "reduce, reuse and recycle".

Question 24: Do you purchase recycled stationery?

All respondents answered this question with 53.69% of respondents stating "yes" they did use recycled office stationery and 46.31% answering "no" they did not.

Question 25: Do you recycle paper?

The vast majority of respondents (87.92%) stated that they recycled paper and other stationery from their office.

Question 26: Are printer ribbons re-inked? If yes, how often before they are replaced?

The question was answered by all of the respondents. However, only a small number of respondents (38.26%) answered affirmatively. Approximately 49% of respondents stated that they replaced printer ribbons every "1-2 months", approximately 40% every "2-3 months", and 11% "more than 6 months".

Question 27: How are internal office communications and memos sent?

The method of sending internal communications is another critical issue for waste prevention. In the hotels surveyed, however, the respondents have not shown notable awareness of this. While the majority of the hotels still used A4 paper (52.35%), a small number of respondents did state that they used the reverse side of previously used paper for internal messages (15.44%). Nevertheless, 42.95% of the respondents indicated that they used a staff notice board instead of printed materials, and only a

small number used electronic mail as a method of sending internal communication (8.05%) (Figure 14).

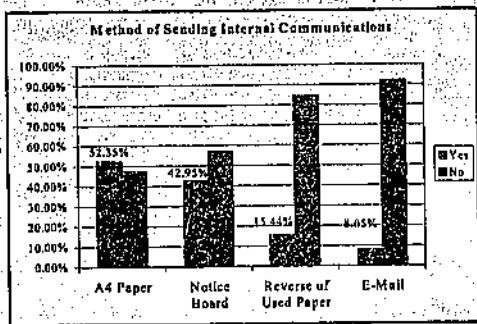


Figure 14: Method of Sending Internal Communications

It also proved necessary to assess the level of awareness of the office waste minimization issue between properties. Frequencies were run on question 27 and as results show (Table 8) respondents from five-star hotels are appear more environmentally aware of the waste reduction issue in tis instance. The majority of these hotels reverse previously-used paper (37.5%), use a notice board (25%) or electronic mails (18.75%) to pass on internal messages. Four-star respondents show some evidence of environmental awareness on this waste prevention issue, with 41.18% reversing used paper, 17.65% using e-mail, and 11.76% using staff notice boards. Against this only 29.41% use new A4 paper to pass on messages. Practice within hotels of lower classification (three star and below) on the other hand, does not inspire confidence in terms of environmentally friendly practice or awareness of the seriousness of this issue.

Table 8: The Awareness Level of Waste Prevention Issue and Hotel Classifications

Methods of Sending Internal Communications	Hotel Classifications				
	One Star	Two Star	Three Star	Four Star	Five Star
<i>A4 Paper</i>	66.67%	43.75%	44.64%	29.41%	18.75%
<i>Noice Board</i>	5.13%	12.5%	16.08%	11.76%	25%
<i>Reverse of Used Paper</i>	25.64%	43.75%	35.71%	41.18%	37.5%
<i>E-mails</i>	2.56%	0%	3.57%	17.65%	18.75%

Question 28: Are both sides of the paper used to reduce paper usage in the office?

It was found that the great majority of respondents (94.63%) stated that they used both sides of paper before discarding them, while a small number of the remainder (5.37%) refuse to follow this waste reduction strategy.

Question 29: When purchasing, are opportunities taken to buy materials in bulk?

One of the most simply ways to reduce waste is by purchasing products in bulk. Based on the findings, however, less than a half of the respondents (36.91%) indicated that they bought office materials in concentrated form or in bulk.

Question 30: Do you have any other comments about the environmental practices of the administration departments in this hotel?

This open-ended question provided respondents with the opportunity to provide further insight as to their existing environmental practice in the area of office management. However, this opportunity was only taken up by 16.1% of respondents. Recommendations were offered, however, on how best to improve existing practice in this key area. These included: educating all staff to save all on office stationary, reversing paper and other materials, turning off air conditioners one hour before leaving room, selling paper and other office stationary to local merchants for recycling and using stationery packages that can be refilled.

In summary, the office departments of hotels are areas that consistently generate a large quantity of solid waste. The majority of this waste is paper-based. Based on the above findings, it can be concluded that although the office departments of the hotels surveyed seemed aware of wastage and tended to recycle their office stationery, their actions do not yet constitute a complete waste reduction policy.

7.1.3.3.1 Key Correctional Data from the Administration Department

Correlation tests were once again conducted to test for differences in approach between the various properties and whether this could be related in any way to classification type. Tests were run on question 24 to 29, with results indicating a strong degree of correlation between environmentally friendly office management and hotel classification type. Table 9 shows that the chi-square scores between hotel classification and each waste reduction practice tested were significant at the level of 1% ($P = .00, .00, .04$ and $.00$). This suggests that hotel classification is positively correlated with office waste reduction strategies ($P < .05$). This further suggests that office staff of hotels with higher classifications seem to carry out more environmentally friendly practices than those in hotels with lower classifications.

Table 9: Correlation between Hotel Classification and Waste Reduction Policies

	One Star		Two Star		Three Star		Four Star		Five Star		X ²	P
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No		
Using Both Side of Paper	82.4%	17.6%	96.7%	3.3%	98%	2%	100%	0%	100%	0%	13.44	.00
Recycling Office Stationery	67.6%	32.4%	96.7%	3.3%	93.9%	6.1%	88.9%	11.1%	100%	0%	18.21	.00
Purchasing Recycled Stationery	32.4%	67.6%	55.2%	44.8%	62.5%	37.5%	65.4%	34.6%	66.7%	33.3%	9.75	.04
Buying Materials in Bulk	29.4%	70.6%	13.3%	86.7%	25%	75%	76.9%	23.1%	100%	0%	43.90	.00

(% within hotel)

($\alpha = .05$)

7.1.3.4 The Kitchen and Restaurant Department

According to Kirk (1996), the hotel food service department is an area that generates higher levels of food waste compared to other types of food service facility. Research conducted by Cartier (1997) indicated that the Las Vegas hotel and restaurant industries generate 27% of the total waste for Clark County, Nevada. More importantly, it also pointed out that approximately 25-40 per cent of the total waste generated by hotels is in the form of food scraps. In turn, it also represents a waste of energy because the food has been transported, stored and cooked (Kirk, 1996). The fourth section of the questionnaire investigated environmental practices within the food production department of Phuket hotels and addressed such issues as waste reduction, recycling programs and product purchasing.

Question 31: Do you recycle food scraps?

The kitchen and restaurant departments of the hotels surveyed were the most negligent in their waste management practices. The majority of the respondents (68.46%) did not recycle food scraps, but just under one third of the respondents (31.54%) provided positive feedback to this question.

Question 32: Are oils and fats from the kitchen recycled?

Another key waste reduction strategy for kitchen department is the recycling of oil and fats. However, only a small number of respondents (18.76%) stated that they did this. Based on the results from questions 31 and 32, it can be inferred that a small percentage of the Phuket hotel industry undertakes any form of recycling program in its kitchen department. Many respondents indicated that they believed that it was not good practice to reuse oils and fats since this may influence to customer's perception and health.

Question 33: What issues are considered when purchasing goods for the kitchen?

When considering the purchasing policies for the various kitchen departments, it was found that the hotels surveyed did not show much evidence of environmentally friendly practices when purchasing goods. For example, 77.18% of hotel respondents

focus primarily on packaging reduction when purchasing goods for the kitchen. A smaller number (41.61%) indicated that they purchased only organic products, while less than one third (30.20%) stated that they asked suppliers to take their packaging back (Figure 15).

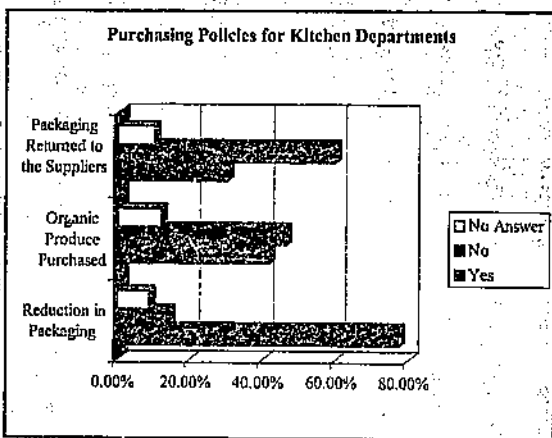


Figure 15: Total Hotels Response to the Purchasing Strategies for Kitchen Departments

Question 34: Are individually packaged goods used in the restaurants and bars of your hotel?

This question asked respondents to indicate whether individually packaged goods were used in the restaurants and bars of their hotels. Five choices were given for answers including sugar, milk, condiment containers, disposable cups and other items. The majority of the respondents stated that they generally used individually packaged items in bars and restaurants (73.15%). Moreover, these individually packaged items were common with up to five or six items in some hotel restaurants. Sugar packages were the most common items used in the restaurants, followed by milk, condiment containers and disposable cups. Other individually packaged items included coffee and tea bags, cream bags, tooth picks, chopsticks and butter.

Question 35: Do you have any other comments about the environmental practices of the kitchen and restaurant areas in this hotel?

This question invited respondents to provide further information on the environmentally friendly practices within their kitchen and restaurant departments. The question was answered by 12.75% of the respondents. The answers included reusing plastic bags, providing separate bins in the kitchen and bar for glass, aluminium or plastic containers, supporting the use of natural products such as banana leaf or lotus leaf and supporting the use of alcohol instead of electricity for warming food. Some respondents suggested that the kitchen staffs should provide dispensers for coffee, sugar, or salt rather than packaged single serves. Also, a few respondents said that food wastes from the kitchen were sent to local farms or were used for natural fertilisers.

7.1.3.4.1 Key Correctional Data from the Kitchen Department

Once again, cross tabulation tests were run for questions 31 to 33 (Table 10) to determine if there was any correlation between hotel classification and environmentally friendly practices within the key area of kitchen management. Again, there is evidence to suggest that hotels with higher classifications seem more likely to recycle food scraps, oils and fats than hotels with lower classifications. Chi-square scores for the recycling of food scraps was significantly correlated with hotel classification ($P = .02, P < .05$). Similarly, the chi-square scores for the recycling of oils and fats was significantly correlated with hotel classification ($P = .00, P < .05$). In addition, cross tabulation tests were run to determine if there was a correlation between hotel classification and environmentally friendly purchasing issues. Results indicated that the chi-square score for purchasing organic produce and hotel classification showed a significant correlation ($P < .05$). Moreover, it was also found that the chi-square scores for the reduction of packaging associated with purchased goods and hotel classifications were also significant ($P < .05$). However, the results did not show a significant correlation between the return packaging to suppliers and hotel classification ($P > .05$).

Table 10: The Correlation between Hotel Classifications and Environmentally Friendly Practices within Kitchen Departments

	One Star		Two Star		Three Star		Four Star		Five Star		X ²	P
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No		
Recycle Food Scraps	20%	80%	25%	75%	32.7%	67.3%	50%	50%	66.7%	33.3%	10.76	.02
Recycle Oils and Fats	6.7%	93.3%	8.3%	91.7%	22.4%	77.6%	22.2%	77.8%	77.8%	22.2%	24.28	.00
Organic Produce Purchased	29.6%	70.4%	37.5%	62.5%	53.3%	46.7%	68%	32%	33.3%	66.7%	9.96	.04
Reduction in Packaging	86.2%	13.8%	87.5%	12.5%	76.6%	23.4%	92.6%	7.4%	88.9%	11.1%	3.96	.41
Returned to the Suppliers	25%	75%	33.3%	66.7%	23.4%	76.6%	53.8%	46.2%	55.6%	44.4%	9.84	.04

(% within hotel)
($\alpha = .05$)

7.1.3.5 General Information on Environmental Issues

The last section of the questionnaire was intended to provide a sketch of current environmental management practices within the Phuket hotel industry. The respondents were asked to provide their visions and attitudes regarding environmental issues through the adoption of an environmentally friendly practice within their day-to-day operations.

Question 39: Does the hotel have a formal environmental policy? If yes, what is it?

A majority of respondents (71.14%) indicated that they did have a formal environmental policy within their hotels, and the remainder had either not established any environmental policy (21.48%) or did not respond (7.38%). When the respondents who answered "yes" to the question were asked to describe their environmental policy, however, only 30 respondents (28.30%, n=106) did so. Of these, 18 hotels described their environmental policy as focused primarily on the 3R approaches (reduce, reuse and recycle). They also suggested that hotels should keep all materials that can be reused, to separate rubbish into special bins, and to install waste water treatment plants within the properties. Nine hotels stated that they are supporting the use of local natural products and educating their staff to be environmentally consciousness. Moreover, three hotels argued that they had received a green award and the ISO 14001 certificate.

Question 40: Does the hotel encourage suggestions from employees and guests on environmental management?

Most respondents (67.11%) indicated that they did encourage suggestions from employees and guests on environmental management, whereas 26.17% gave a negative answer and 6.71% did not respond to the question.

Question 41: What other strategies have been implemented by the hotel to reduce its environmental impact?

Only 25 respondents (16.78%) made one or more comments for this question. The comments included:

- Introducing an enormous number of equipment adaptations and new procedures to save electricity, water, gas, paper and other resources (34%);
- Using more environmentally friendly and local products and services (32%);
- Making an effort to preserve flora and fauna in the hotel areas (24%);
- Reducing the use of foam and chemical products in all hotel activities (16%);
- Placing small rocks and gravel on the beach to reduce watering and stop pest spraying (12%);
- Using natural fertilisers and grey water in gardens (8%); and
- Following the Green Leaf Program or the ISO 14000 Certificate for all hotels in Phuket (8%)(n=25).

Question 42: Does the hotel consider environmental protection an important public issue?

The hotel respondents, when asked to identify their attitudes and responsibilities with regard to environmental issues, generally showed positive outcomes. This study found that most respondents (86.58%) agreed that environmental protection is an important public issue, whereas 8.72% did not agree with this, and 4.70% did not respond to the question.

Question 43: Would it be advantageous for the hotel to become more environmentally responsible?

When asked about their opinion on the adoption of environmentally friendly practice, a large number of the respondents (81.88%) agreed that it would be advantageous for them to conduct their business in line with protecting the environment. Only 14.09% of respondents that did not agree with the adoption of environmental practice within the hotel industry and 4.03% did not respond to the question.

Question 44: Would the hotel be willing to spend more initially to buy environmentally approved appliances, if the overall long-term savings were better than for those appliances that are cheaper?

As the literature suggests using environmentally friendly products or appliances would be of benefit to the long-term operation of the hotels and most respondents seemed to support this notion. This is illustrated by the fact that 67.11% of the respondents pointed out that they were willing to spend more initially to buy environmentally friendly products, whereas 21.48% gave a negative answer and 11.41% did not respond to the question. Figure 16 below shows the overall hotels response to the environmental issues of this study.

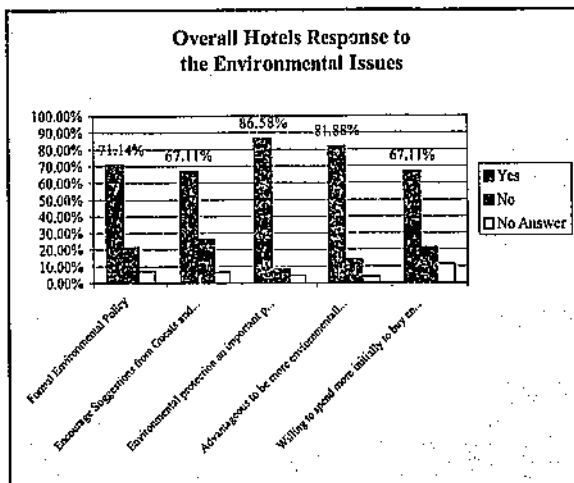


Figure 16: Overall Hotels Response to the Environmental Issues

Question 45: Are there any other comments you would care to make regarding this hotel's environmental practices?

The last question in this final section of the questionnaire invited respondents to offer further comments regarding environmentally friendly practices within the hotel industry. It was found that only 25 respondents (16.78%) made some recommendation for this question. Twelve respondents suggested that the government should pay more attention to looking after the hotel industry and that it should have more strict environmental regulations. Five respondents stated that hotels should develop staff consciousness on the environmental responsibilities. They suggested that staff is educated to save natural resources by means of stickers beside light switches and taps. There are also stickers in guestrooms encouraging guests to help reduce waste. The other five hotels thought that the government should promote environmentally friendly practices and educate the Thai people to be more environmentally conscious. One respondent noted that his/her hotel had just received the Green Leaf Award and that he/she would like to persuade other hotels to follow the ISO 140000 Certificate or Green Leaf Program.

7.1.3.5.1 Key Correctional Data from the Recognition of Environmental Responsibilities

Cross-tabulation tests were again run between questions 39 to 44 to determine if there was any correlation between hotel classification and recognition of environmental responsibilities (Table I). The results indicated that typically hotels with higher classifications seem more concerned with environmental issues than hotels with lower classifications. This is clearly illustrated by the resulting chi-square scores related to having a formal environmental policy ($P = .00, P < .05$), schemes for encouraging suggestions from guests and staff on environmental management ($P = .00, P < .05$) and the issue of environmental protection being an important public issue ($P = .00, P < .05$). Finally, the chi-square score for agreement on the advantages of being more environmentally friendly and hotel classification was also significant ($P = .00, P < .05$). The initiative for hotels to buy or use environmental appliances also correlated significantly with hotel classification ($P = .00, P < .05$).

Table II: The Correlation between Hotel Classifications and Actual Environmental Responsibilities

	One Star		Two Star		Three Star		Four Star		Five Star		χ^2	P
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No		
Formal Environmental Policy	51.6%	48.4%	64%	36%	91.3%	8.7%	88.5%	11.1%	88.9%	11.1%	21.72	.00
Encourage Suggestions from Guests and Staff	40.6%	59.4%	66.7%	33.3%	77.8%	22.2%	96.2%	3.8%	100%	0%	27.74	.00
Environmental protection an important public issue	69.7%	30.3%	89.3%	10.7%	100%	0%	100%	0%	100%	0%	25.99	.00
Advantageous to be more environmentally friendly	60.6%	39.4%	72.4%	27.6%	100%	0%	100%	0%	100%	0%	33.87	.00
Willing to spend more initially to buy environmentally appliances	42.9%	57.1%	69%	31%	87.8%	12.2%	92.3%	7.7%	100%	0%	26.90	.00

(% within hotel)

($\alpha = .05$)

7.2 QUALITATIVE DATA FROM THE INTERVIEW PROCESS

Five hotel managers from each hotel classification (twenty-five hotel managers in total) were invited to participate in this more qualitative stage of the study. Semi-structured interviews and data analyses were conducted by means of the qualitative theme analysis method. All selected hoteliers responded to the researcher's questioning and provided insights into their vision of environmentally friendly practices within the Phuket hotel industry. The following section presents the results that have been directly obtained from the subjects' comments during this more qualitative stage of the research.

7.2.1 ACTUAL SAMPLE CHARACTERISTIC

As stated previously, semi-structured interviews were conducted with 25 hotel managers. Of those that participated, there were 17 male and 8 female participants. In terms of actual seniority and operational responsibility, participants included 13 general managers, 6 personal managers, 3 resident managers, 1 managing director, 1 administrative manager, and 1 assistant manager. When considering the nationality of the participants, it was found that there were 20 Thai participants and 5 from overseas, including Australian, Swiss, French, English and American nationals. The length of the interviews ranged from 23.50 minutes to 45.45 minutes, with an average of 30.04 minutes per interview. Table 12 indicates the demographic profile of the subjects, the length of the interviews and the corresponding word count per subject.

Table 12: A Detailed Listing of Actual Sample Characteristics

Subjects	Gender		Nationality		Job Positions	Length of Interview	
	Male	Female	Thai	Foreigner		Time (Mins)	Word Count
HC1R6	√		√		GM	27.15	495
HC1R7		√		Australian	GM	40.35	765
HC1R8		√	√		GM	26.54	483
HC1R9		√	√		GM	26.25	450
HC1R10	√		√		GM	23.50	623
HC2R11		√	√		GM	26.45	454
HC2R12	√		√		GM	32.15	649
HC2R13		√	√		PM	26.55	487
HC2R14	√		√		MD	25.36	420
HC2R15		√	√		GM	31.36	637
HC3R16	√			Swiss	PM	27.12	469
HC3R17	√		√		PM	28.22	528
HC3R18	√		√		GM	30.26	636
HC3R19		√	√		Ass.M	30.55	649
HC3R20	√			French	GM	33.20	679
HC4R21	√		√		RM	28.45	565
HC4R22	√		√		RM	32.55	672
HC4R23	√		√		PM	31.20	672
HC4R24	√		√		GM	30.25	627
HC4R25	√		√		GM	45.45	821
HC5R26	√		√		AM	31.45	651
HC5R27	√			English	PM	29.54	626
HC5R28	√		√		PM	32.20	652
HC5R29	√			American	GM	24.54	639
HC5R30	√		√		RM	30.45	690
Total Mean	18	7	20	5		30.04	601.64

7.2.2 DETAILS ON THE QUALITATIVE INTERVIEWS

A variety of views are presented in the discussions below. Whilst differing in philosophical approach, they agree on a number of issues. Table 13 provides a summary of the attitudes to the major issues raised during the interviews.

Table 13: Key Issues and Respondent Attitudes (Interviews Process)

	Is the management of environment by hospitality and tourism industry in the Phuket province is necessary?	Should the adoption of environmentally friendly practices be introduced and enforced?	Will the Phuket hotel industry increasingly be pressured by the government environmental regulations?	Will the Phuket hotel industry increasing be pressured by society and tourists to take action on the present environmental issues?	Should it be advantage for the hotels to adopting environmentally friendly practices?	Should the adoption of environmental practices enhance a property's quality and service?	Should the adoption of environmental practices contribute to a hotel's image and competitive marketing?	Should the adoption of environmental practices increase the number of consumers?	Should the adoption of environmental practices benefit the long-term financial advantage?	Are the current environmental efforts within the Phuket hotel industry are most driven by the environmental consciousness of the hotel operators?	Is the search for the competitive, operational and financial advantage of the Phuket hotel industry lead to the adoption of environmentally friendly practices?
HC1R6	Yes	No	No	No	No	No	No	No	Yes	No	Yes
HC1R7	Yes	No	No	No	No	Yes	Yes	No	No	No	Yes
HC1R8	Yes	No	No	No	Yes	Yes	Yes	No	No	No	Yes
HC1R9	Yes	Yes	No	No	Yes	Yes	Yes	No	No	Yes	No
HC1R10	Yes	No	No	No	Yes	Yes	Yes	No	No	Yes	No
HC2R11	Yes	Yes	No	No	Yes	Yes	No	No	Yes	No	Yes
HC2R12	Yes	No	No	No	Yes	Yes	No	No	Yes	No	Yes
HC2R13	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	No	Yes
HC2R14	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
HC2R15	Yes	No	No	No	Yes	No	No	No	Yes	Yes	Yes
HC3R16	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	No	Yes
HC3R17	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
HC3R18	Yes	Yes	No	No	Yes	No	No	No	Yes	No	No
HC3R19	Yes	Yes	No	No	Yes	Yes	Yes	No	Yes	No	Yes
HC3R20	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes	No
HC4R21	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes	Yes
HC4R22	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
HC4R23	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
HC4R24	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
HC4R25	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
HC5R26	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
HC5R27	Yes	Yes	No	No	Yes	Yes	Yes	No	Yes	No	Yes
HC5R28	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
HC5R29	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
HC5R30	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes

1) Concerns for the environmental situation in Phuket, especially in the popular tourist attraction like Patong Beach

It appears from the interviews that most participants shared similar opinions on the environmental situation in Phuket. Most of primarily concerns for the environment were the uncontrolled tourist development within the province and the lack of environmental awareness among Thai people. The participants also pointed out that the growing number of tourists and the increasingly affluent and consumer-oriented local populations were the primary concerns for the Phuket capacity to handle waste and other environmental issues. The following extracts from the interviews highlight these:

HC2R11: *"I have been living in Phuket for more than ten years. The natural environment in Phuket has been destroyed rapidly because of the increasing number of tourists coming to Phuket each year. In addition, the tourism industry in Phuket also has adversely affected the quality of the environment in this tourist destination. It is a fact that Phuket has deteriorated and become dirty with garbage and waste matter strewn around the tourist sites."*

HC3R18: *"In my view, the most immediate issue facing the tourism industry in Phuket is the neglected quality of its environment. There is the lack of a strong interest from both public and private sector to take strict action to protect and sustain the surrounding environment of Phuket. This is an urgent issue that will finally obstruct the future success of the whole Thai tourism industry."*

HC4R23: *"My view on the tourism development in Phuket is that it has been far too fast, and is quickly reaching a dangerous level for the environment. The quality of the natural resources and the environment being used at the moment for the tourism industry is slowly threatening the future of the Phuket tourism industry."*

HC5R26: *"In my opinion, the quality of the environment in Phuket is not in a good condition. One of the main causes comes from the uncontrolled tourism development. We have more than three million tourists come to Phuket every year. Lots of high buildings and tourist facilities, such as hotels, restaurants, entertainment structures are over developed and cluttered. Then the natural scenery and local culture has been overwhelmed. The greatest concern that comes through my mind is that there is the lack of environmental awareness and action among most Thai people."*

2) The necessity to have a sound environmental management approach to running the hospitality and tourism industry in Phuket province

There appears to be widespread support for the need for a more pro-active environmental management approach in Phuket province. This should take the form of increased environmental practice by the hospitality industry in conjunction with the support from the Thai government, which is responsible for developing more strict environmental regulations linked to environmental protection. Overall, the respondents stated that it is absolutely necessary for the hospitality and tourism industry in Phuket to take more action on the environmental management issues. Although the majority of the respondents (nineteen out of twenty-five) supported the adoption of environmentally friendly practices within the hotel industry, there were six hotel managers from one and two star hotel classifications who did not wish to follow the green bandwagon. They argued that the concept of a green hotel was more suitable for hotels with higher classifications than those with lower classifications. This they put down to issues of time and cost and the fact that the changes required of them were simply too expensive, requiring a considerable financial outlay in both the short and long-term. In other words, the concept of an environmentally friendly hotel depends largely on the ability of the hotel to implement environmental practices. The following excerpts from the interviews illustrate this:

HC1R8: "I am not sure that it might suitable for hotels with lower classifications like my hotel. I look at that the huge initial investment in equipment to adopt environmental practice that might be an obstruction for most small hotels. The concept might be best suited for hotels with higher classifications, because those hotels have more money and better educated staff to follow up the concept".

HC1R9: "Although the adoption of environmental practice is a good concept and is not necessary for the Thai hotels at the moment, it should be noted that the initial investment to change typical hotels to become eco-hotel needs a lot of money. It might be difficult for small hotels to deal with this issue".

HC2R12: "I view the green concept or the Green Leaf Program as just an abstract. It lacks a clear format to show hotels what options are available to be more environmentally friendly. In addition, the nature of the hotel industry is to serve guests with luxury, opulence and grandeur. Therefore, it is quite difficult to reduce energy and water consumption while keeping these standards of physical appointment and service".

3) Managers' perceptions of the concept of green hotels or environmentally friendly hotels

Generally, most respondents were quite positive about the concept of an environmentally friendly hotel. It can be concluded, therefore, that most Phuket hoteliers do have an appreciation of what is being proposed here. For the most part respondents felt obligated to respond to negative environmental practice on the part of their particular establishment. They also suggested that the industry as a whole should be much more accountable for its actions, particularly when to the detriment of the local environment. Some respondents suggested that the adoption of environmentally friendly practice is a new challenge for the Thai hotel industry and is only coming to light now as a result of a more global awareness of the environmental issues. Moreover, they suggested that the opportunities afforded in terms of reducing waste and making their facilities and operations safer and more environmentally friendly for their guests and employees, were simply too great to be ignored.

One of the more interesting things that arose from the interviews was the fact that most respondents indicated that they had little knowledge about the concept of an environmentally friendly hotel and even less about the Green Leaf Program - the program organised by the Thai Hotel Association to encourage and promote environmental practices in the Thai hospitality industry. That said, a number of respondents especially those with lower classifications stated that they had not heard or received any information or guidelines relating to this program. The following extracts are typical of the types of responses received from participants:

HC1R6: "To be honest, I have not idea about the concept of an environmentally friendly hotel and this is the first time I have heard about it. With regards to the Green Leaf Program of the Thai Hotel Association, I also have not heard or know anything about that program yet"

HC1R7: "I have not heard about the concept of the environmentally friendly hotel within Thailand yet. Yes, I think the concept is excellent"

HC3R18: *"I have not heard about the concept of an environmentally friendly hotel or the Green Leaf Program in Thailand yet. I think it might be the mistake of the THA not to promote and disseminate the information of this program".*

It was interesting to note that Subject HC3R29 in response to this question provided two main reasons why the Green Leaf Program of the Thai Hotel Association has not received positive feedback from the business operators:

HC5R29: *"The two main reasons that have made this program useless is due to the fact that it does not provide either distinct formulation of a code of practices or it does not disseminate enough information for a Thai hoteliers".*

As mention above, the initiation of environmentally friendly practices and awareness of the concept of an environmentally friendly hotel is somewhat hesitant and piecemeal among the Phuket hoteliers. Five respondents argued that the adoption of environmentally friendly practices would be somewhat difficult for hotels with lower classifications because of the lack of knowledge, technical skill, adequate manpower, and financial support. Moreover, a number of respondents pointed out that the lack of environmental awareness and action among the Thai people is the greatest obstacle to protecting and conserving the environment. This they put down to the environmental unconsciousness of most Thai people. A number of respondents encouraged the Thai government to promote environmental knowledge for the hotel and tourism-related businesses in the form of meetings, seminars, and other creative activities. This would promote awareness and understanding of how to operate hotels effectively and in a more environmentally friendly manner.

HC3R19: *"I believe that the adoption of environmentally friendly practice by hotels would result in a positive affect for hoteliers, staff, tourists, local people and environment. However, I am not sure that most hotels in Phuket are ready or willing to follow this concept because of their limitations in terms of financial assistance, knowledge and time".*

HC4R23: *"As far as I know, there are many hotels in Phuket, especially those with higher classifications, which are attempting to alter their equipment, policies and practices to minimise the strain of their presence on the environment. However, there are many obstructions that prevent those hotels from being more environmentally sensitive. For*

example, there is the lack of technology and knowledge in Thai hotels and the cost of environmentally friendly products is usually expensive. Therefore, it is a bit difficult for small hotels or hotels with lower classification to turn green".

HCSR26: *"The greatest concern for the Thai hotel industry in turning green is the fact that there is a lack of knowledge on environmental management. We do not understand the word "know-how". These include a lack of technology, educated people (manpower), finance and more specifically a lack of environmental awareness among Thai people".*

HCSR27: *"The lack of knowledge and technology based on environmentally friendly practices is the greatest concern and obstructs the Thai hotel industry from going green. Therefore, there is the need to promote activities to enhance the role and cooperation of hotels and government and private organisations in order to protect, prevent, and solve the environmental problems of the community".*

4) The necessity for hospitality organisations to improve their performance by taking action on the environmental issues

The majority of interviewees were extremely positive about the idea of their property being in harmony with the environment. Most respondents agreed that the concept of the environmentally friendly hotel makes good business sense and is a form of practice that businesses should have developed some time ago. In other words, they are committed to environmental protection and the use of sustainable resources in their day-to-day operations. They believe that as users of environmental resources themselves, the tourism and hospitality industry has a responsibility to promote environmental stewardship and best practice in order to help preserve the environment for current and future generations. In other words, they recognise fully that the environment is the real raw material of the tourism industry and that without one you cannot have the other. They argue that if Phuket is to continue to grow as an international tourism centre and as a major contributor to Thailand's continued economic development, the issue of environmental protection and sustainability is all-important. Because this success demands an unspoiled clean environment. As such, sound environmental management in Phuket is necessary and tourism related businesses should pay more attention to this issue. The following extracts that emerged from the interviews help to highlight this:

HC1R10: "I believe that the adoption of an environmentally friendly practice is one of the main requirements of the Phuket hotel industry. It will soon be no longer able to ignore its environmental responsibilities. The quality of the environment is the core of the whole Phuket tourism industry".

HC3R20: "Environmentally friendly hotels are what the guests want. Guests will be satisfied and will appreciate a hotel's efforts to protect the environment. I think the adoption of environmentally friendly practice will improve the relationship between hotels, guests and local communities".

HC4R21: "Personally, I do agree with and appreciate the concept of an environmentally friendly hotel. It is the responsibility of hotels and other tourism-related businesses to respond to the adverse impacts that come from their operations".

HC4R22: "In my opinion, the adoption of environmentally friendly practice by hotels is important and necessary for the future success of the Phuket tourism industry. Moreover, taking action on environmental issues would be a new opportunity for businesses to survive in the intensive marketing competition. The quality of the environment is an essential element of the Phuket tourism industry".

HC5R27: "I view the adoption of environmentally friendly practice and the concept of an environmentally friendly hotel as necessary and urgently needed for the Phuket hotel industry. Traditionally, tourist business operators of hotels, bungalows, restaurants, and other places of amusement have generated major problems in terms of sewage and garbage as well as the over consumption of water and electricity. It will be of benefit to the environment if business operators paid much more attention to protecting it for the future".

5) Factors influencing the decision whether or not to adopt environmentally friendly practice within the Phuket hotel industry

In order to ascertain the key drivers (motivations) to consider while adopting any environmentally friendly practices, all factors that might influence the operation and management of a hotel need to be identified. According to Wade and Atsaiades (2001), the motivations that influence hotels in the implementation of measures to improve the environment include economic incentives, legislative compliance, social responsibility, and ethical behaviour. Zhao and Mema (1992) also mention five external factors that influence the hotel industry: sociocultural, political, economic, technological and ecological; and four internal factors: competitors, customers, suppliers, and substitutes. Moreover, Lin (1997, p.4) suggests that the factors

influencing the operation and management of most businesses can be grouped into two categories: "those of the general environment (indirect-action elements or so-called micro-environment) and those directly affecting the operation or role of the business (the industry environment)". As such, the general environment factors consist of the broader economic, social, demographic, political, legal and technological setting (Hills and Jones, 1989 cited in Lin, 1997). Industry environment factors, on the other hand, refer to customers, suppliers, government, special-interest groups, the media, labour unions, financial institutions and competitors, employees, shareholders and the board of directors (Lin, 1997).

As this study aims to ascertain the motivation(s) behind current environmentally friendly practice within the Phuket hotel industry, it concentrates primarily on factors within the industry environment. From the above literature review, it can be concluded that all factors within the industry environment can be grouped into two areas: internal factors and external factors.

5.1) External Factors

When asked to identify those external key factors that the subjects considered in initiating and implementing environmentally friendly practices, the following themes emerged: a) government regulations, b) market influences (customers and tour operators), c) technologies and d) suppliers.

• Government Regulations

When asked whether the hotel industry will be increasingly pressured by government pressure to take more action on environmental issues, most respondents agreed that no pressure was currently being brought to bear in terms of a demand for compliance by government. They also pointed to some of the likely difficulties in the capacity of the Thai government and the municipal government in this respect, namely combating major social issues such as education, health and welfare and the corruption issue in the Thai society. A number of hotel managers did suggest that the government should introduce stricter environmental regulations as a tool towards environmental protection and offer concrete suggestions as to how to solve the present environmental problems. The following extracts highlight some of the key

perceptions of respondents in relation to government responsibility for the environment.

HC1R9: *There are many hotels in Phuket that still ignore the environmental regulations and some of them violate the regulations by draining polluted water into the sea or public canals. The fact is that the environmental regulations that we are using at the moment are remiss and obscure. So, it is time that our government modified these environmental regulations and made them more authoritative."*

HC2R11: *"I believe that few hotels in Phuket recognise that their businesses have an important role to play in protecting and enhancing the environment. As you know, however, one of the main reasons is that the Thai hotels do not have to face any strict environmental laws and regulations yet."*

HC3R16: *"What the government has done is only issuing the environmental laws and regulations. It never looks back at the effectiveness of those environmental laws. It is true that the corruption issue is a long-term problem in the Thai society. As far as I know, there are many hotels in Patong Beach that have not construct their own water treatment plants and some of them are still draining polluted water to the public canals and sea."*

HC5R28: *"It is ridiculous that the government has established a plan to increase revenue from the tourism industry by the year 2002, however, it has not paid enough attention to the present environmental problems. The major priority that the local municipality of Phuket has to solve is the polluted water issues. There is evidence that a number of accommodation services in Phuket are still draining wasted water to the sea and local canals."*

- **Market Influences**

Market influences in this study refers to any pressure brought to bear on industry as a result of demands from customers and tour operators for more environmentally friendly products and/or services. A number of respondents were not aware of the increasing significance of the green tourism dollar and certainly felt that it was insufficient to warrant any push by Thai hotels to be more environmental sensitive. This is illustrated by the fact that there was an almost even distribution between respondents who believed that the adoption of environmental practices would increase demand and those that did not. The respondents also pointed out, although they offered little support, that there were insufficient numbers of green tourists visiting Thailand and/or Phuket to warrant such a change in practice. It was an

argued that most of the tourists who come to Phuket usually do not care about environmental issues; thinking more about the entertainment and other more experiential aspects of the trip. In other words, they are less concerned with environmental unconsciousness. One hotel manager from the two star hotel classification claimed that the hotel had conducted a survey to ascertain the attitude of its visitors toward environmental management in Phuket province in 1998. The results indicated that most tourists were unaware of or did not realise the extent of the environmental problems on the island. Most importantly, they found that their guests responded negatively to their environmentally friendly initiatives. In addition, only a few respondents indicated that they received demands from guests for a greater degree of environmental stewardship. The following extracts are typical of the types of responses received from participants:

HC1R7: *"In the case of Phuket, I think most guests here, especially in Patong Beach, are not environmentally friendly people. They come here for holiday, for drink and for the ladies. Unfortunately, they do not come for environmental issues. Therefore, it would be difficult for Thai hotels to operate in an environmentally friendly fashion".*

HC2R15: *"I do not think tourists who come to Phuket are interested in green practices. I used to experience this with the European guests who stayed at my hotel. Although I put the sign in all guestrooms to limit the water consumption, these guests seem to ignore what we are trying to do to protect our environment. They demand to have the towels and bed sheets changed everyday".*

HC3R18: *"I have not experienced guests asking hotels to turn green yet. Basically, most of our guests here come from China, Japan, Korea and Malaysia. None of these guests ever asks or demands the hotel to be operated in line with protecting the environment".*

HC5R28: *"We have a small number of green tourists coming to Phuket. But most tourists who come to Phuket and especially to the Patong Beach are teenagers. They come for a new experience and spending money on their entertainment. Less than a half of them think about environmental issues or demand to stay in green hotels".*

Thus, respondents argued that most visitors in the Phuket province are not taking an interest in the environment. Moreover, only a few of respondents have ever received requests from visitors demanding a more environmentally friendly product. They pointed out that some of their guests do not collaborate in their environmentally friendly practices. Furthermore, there was no evidence a hotel that received the Green Leaf Award in Phuket would be able to attract more guests than any other hotels. Some hotel managers suggested that when customers actually do have environmental concerns regarding their practice, they normally originate from Europe and very much consider themselves as green tourists. On the other hand, those tourists from less developed countries that come to Thailand do not show any concern for or seem to mind current environmental practice. The question that needs to be answered, therefore, by both government and practitioners, is whether to concentrate energies on increasing the number of green tourists at their point of origin or whether to concentrate on the environmental education of all existing tourists to the island?

- **Technologies**

It appears from the interviews that most participants believe that the lack of technology and educated manpower is one of the primary obstacles for the Phuket hotel industry in its efforts to go green, as can be identified in the following extracts:

HC1R8: *"Although I want to introduce green practices into my hotel, but it is impossible for me to do that as long as I still lack information and knowledge. This is the main problem that the government needs to solve before asking hoteliers to turn green".*

HC2R12: *"I think most hotels are thinking about the adoption of environmental practices. But the lack of budget, knowledge and technology among the Phuket hoteliers have prevented us from being able to conduct any best environmental practices".*

HC3R17: *"One of my concerns is the lack of technology and knowledge for the Thai hoteliers. It is true that most Phuket hoteliers do not have strong knowledge about environmental management. Therefore, the government or the Thai Hotels Association should get onto this matter. They might promote environmental knowledge for the hotels and tourist industry in the form of meetings, seminars, and other creative activities*

to promote awareness and understanding of how to operate hotels effectively and in an environmentally friendly way".

HC4R22: *"I believe that the adoption of environmentally friendly practices depends largely on the ability of each hotel. I mean hotels with higher classifications, which complete with large budgets, man power and knowledge are able to follow the concept of the environmentally friendly hotel more easily than hotels with lower classifications. Therefore, the public sector such as the Thai Hotel Association or the Tourism Authority of Thailand must pay more attention on these small hotels. It is impossible for them to think about going green. The government should support them and educate them to operate their hotels in line with protecting the environment rather than let them do by themselves".*

HCSR28: *"As far as I know, there are many three and four star hotels in Phuket that are attempting to implement environmental efforts within their day-to-day operations. However, they have not done it perfectly because of the lack of knowledge, skill and technology. So, it is necessary that the government must pay much more assistance to these hotels to operate their properties in line with protecting the environment. It is impossible for them to achieve environmental conservation by themselves".*

• Green Suppliers

According to the International Hotel Environment Initiative (1996), environmentally friendly product purchasing is one area that is attracting attention from the hotel industry and the broader business community as a tool to promote the sustainable development concept. The United States Environmental Resource Centre (2000) points out that while product purchasing policy can be used to improve a hotel's environmental performance, it should also address the issues of price and quality into as primary considerations. In the context of Phuket hotels, this study found that it was rather difficult for hoteliers to locate local suppliers who would be able to provide environmentally friendly products at a lower cost than traditional products. Examples of those common environmentally friendly products include disposable detergents, refillable pump or dispensers for bathroom amenities, non-CFC sprays, water saving sanitary fixtures (ie: low-flow showerheads, aerators or washing machines) and energy saving electrical appliances. The reason that these environmental products are expensive is due to the fact that the current market demand for such products in Thailand and especially Phuket is still low. This study found that a large number of Phuket hoteliers could not afford to supply

environmentally responsible products and services due to both their relative expense and limited availability. The issue of limited availability can be put down to the fact that they do not exist on the local markets. It is obvious that the selection and use of environmentally friendly products and chemicals stood out as a prime target for further exploration and improvement. As such, most participants suggested that there is a need for the Tourism Authorities of Thailand and the Thai hotel industry to work together to try to initiate more economic incentives aimed at encouraging the industry to implement environmentally friendly measures in future hotel plans. At the same time, the Phuket hotel industry should work with suppliers to introduce products at lower prices than at present prices to encourage more hotels to use environmentally friendly products. The following extracts that emerged from the interviews help to highlight this:

HC4R24: *"Having a sound environmental management approach to running a hotel is absolutely necessary. However, there are a number of issues that should be taken into consideration. In case of Phuket, it is quite difficult to find suppliers who are knowledgeable and supportive of sound environmentally friendly products. So, it is the responsibility of the Thai Hotels Association or the Tourism Authority of Thailand to encourage those suppliers or contractors to adapt their own environmental policies and develop environmentally friendly products".*

HCSR27: *"I admit that the adoption of environmentally friendly practice for the hotel industry is a fantastic concept and I am quite interested in this project. However, I think the hoteliers need to invest a lot of money in order to operate their hotels in a sound environmentally sensitive manner. Do you know, how much biodegradable products cost? Moreover, these needs to be a huge initial investment to buy environmentally approved appliances such as washing machines, dish washing machines or photocopies".*

5.2) Internal Factors

When asked to identify internal key factors that the subjects considered when initiating and implementing environmentally friendly practices, the following themes emerged: a) cost considerations, b) quality assurance, c) consideration of the hotels image and the overall marketing strategy, and d) owner influences.

• Cost Considerations

Whilst most respondents were sympathetic to the issue, many were simply unable to go green as a result of the huge initial investment they perceived would be required to do so. Most operators agreed that this action would bring long-term benefits to the hotel and the environment. Given the present economic downturn in Southeast Asia, however, many suggested that it was unlikely that any such investment would or could take place in the immediate future. That said, certain environmentally friendly practices were being initiated at little or no cost to hotels. Respondents suggested that properties were becoming more conscious of the amount of energy and water being used unnecessarily and pointed out that there was ample evidence that many hotels in Phuket have started implementing strategies to control and manage energy consumption, reduce solid wastes, save and reuse water, and recycle materials and products. Certainly all of those interviewed have engaged in efforts to reduce their operational costs by emphasising on reducing the energy and water consumption. Below are examples of most common environmentally friendly practice that most participants adopted in their daily operations:

- the installation of key tags and electrical saving devices;
- the installation of timers or motion detectors in areas where lights tend to be left on;
- the use of dispensing systems to replace disposable bathroom amenities;
- the replacement of normal bulbs with low-energy bulbs;
- the installation of a Solar Cell;
- the use of pourers for sugar, pitchers for cream and small serving dishes for butter;
- the installation of recycling bins to encourage recycling program;
- the donation of unfinished guest toiletries to a local home or school;
- the use of water-conserving devices and environmental notices in all guests' bathrooms; and/or
- the construction of wastewater treatment plants.

Whilst they indicated that the primary motivation here was one of cost saving, respondents also alluded to the wider benefits of such practice for the community and the environment. For most respondents, however, the short and longer-term

financial advantage was considered the most obvious benefit and/or motivation in adopting environmentally friendly practices. The following excerpts from the interviews illustrate this:

HC2R15: *"I do believe that not only the hotel industry but also all tourism-related businesses in Phuket should operate their businesses in harmony with the environment. It is the fact that the more you spoil the environment and natural resources, the faster you bankrupt your business. So, it is the responsibility of the hospitality industry to look after its environment. Hotels should aware that turning green is not only a benefit to the environment and local community, but also to their bottom line".*

HC3R17: *"It is true that the initial investment in environmental equipment might be seem as cost prohibitive at first, but it brings numerous advantages to the hotel itself. In my perception, the most outstanding advantage for the adoption of environmental practice is the financial benefit".*

HC3R19: *"Actually, we at the Bay Shore Hotel have already put in place some environmentally friendly practices in terms of energy and water conservation. We have done this because we realise that the cost of energy and water consumption is the largest cost to the hotel. It is necessary to save on this expenditure as much as we can in order to improve the hotel's bottom line".*

HC4R21: *"In my opinion, saving is the core of operating all businesses. The more you can cut down expenses, the more profits you will receive".*

HC4R25: *"In my mind, environmentally friendly practice means the use of natural materials, the management of green areas, the reduction of water and energy consumption and the recycling of rubbish. Therefore, I believe that the greatest benefit for adopting environmentally friendly practice is the operational cost reduction".*

- **Quality Assurance**

When asked about their attitudes towards taking action on environmental issues, almost all respondents believed that the adoption of environmentally friendly practices would enhance the quality perceptions of their properties amongst consumer groups. Quality assurance refers to the assessment of the day to day hotel operations, which include guest accommodation, food and beverage, recreation and leisure facilities and business services and guest amenities, with strong emphasis on safety and security, health and hygiene (Safir International Hotel Management,

2001). The following extracts highlight the perception of hoteliers on the adoption of environmentally friendly practice with regard to the overall quality assurance:

HC4R24: *"The most important issue for me is the safety of guests while they are in the hotel, as it is directly associated with the guest comfort. I always keep asking the bus drivers to stop the engine when they park their buses in the hotel area in order to reduce the air pollution. With regard to the indoor air quality, I have started replaced our old air-conditioning with new models that are more environmentally friendly. Moreover, the next stage that I am going to do is the production of environmental manuals for guests".*

HC4R25: *"I do agree that the adoption of environmentally friendly practices would enhance the quality assurance of hotels. There is evidence that the environmental situation in Phuket is not only degrading the quality and beauty of the destinations but also is injurious to visitors' health and induces psychological distress and displeasure. As a result, they are left with a negative impression and have no wish to make a repeat visit".*

HC5R27: *"Recently, this hotel has taken numerous steps and has implemented proven security programs to ensure our guests safety. And this has also included the implementation of measures to improve the hotel environment. As such, I do believe that the adoption of environmentally friendly practice would ensure a safe, successful and enjoyable visit for our guests".*

• **Consideration of the Hotels Image and the Overall Marketing Strategy**

The study found that sixteen respondents agreed that taking action on environmental issues contributed to a hotel's public image and assists with competitive marketing efforts. They also pointed out that the adoption of environmentally friendly practices is a new challenge for the Phuket hotel industry, with actual take up of this challenge being strongly related to a corresponding increase in global awareness of environmental issues. Respondents also suggested that going green presented a unique business opportunity for those interested, but particularly given the economic hardships currently being felt within the region. It was suggested that there was a unique opportunity for those interested to carve out a niche that might provide a certain amount of shelter from normal economic circumstances. The following extracts are typical of the types of responses received from participants:

HC1R10: *"In my opinion, hotels that are operated in line with protecting the environment would bring divers. These include the enhancement of the hotel's quality and service, contribution to the hotel's image and competitive marketing and the financial advantages".*

HC3R20: *"In my opinion, hotels that have integrated environmental responsibility into their core business practices while achieving significant cost savings are obviously going to receive good public relations and customer loyalty".*

HC4R24: *"I believe that environmental consciousness has been growing significantly all over the world and it is not surprising that concern for the environment has become an increasingly important factor in the whole tourism business. Therefore, the adoption of environmentally friendly practices would enhance the image of the Thai hotel industry and it would reflect its response to the global concerns. I believe that most tourists would appreciate hotels that are operated in line with protecting the environment".*

HC4R25: *"I do believe that the adoption of environmental practices would be the advantage for the hotel in terms of the enhancing the hotel's image and improving the quality of the product. It is also likely to increase the number of consumers to the hotel. It has become one of the modern business strategies in these days".*

• **Demand from the Owners or Shareholders (Owner Influences)**

The interviews also found that there were 3 "four star hotels managers" and 4 "five star hotels managers" who classified their establishments as green hotels or environmentally friendly hotels. These seven hotel managers pointed out that their initial attempts at tackling the environmental issue were mostly driven by their environmental consciousness. Moreover, many of these same managers argued that in their opinion their properties could be classed as green in nature. This is evident in the following excerpts:

HC2R13: *"I believe that turning green depends on the hotel owner's decision. If he/she agrees that a green hotel is a good concept and he/she has environmental awareness, I believe that the hotel owner would not hesitate to adopt environmentally friendly practice".*

HC3R19: *"From my point of view, the environmental initiative depends largely on the hotel owners. Although the adoption of environmentally friendly practices does not benefit the hotel, I believe that my boss who is environmentally conscious would run the hotel in line with protecting the environment".*

HC5R26: *"This hotel has put great efforts into the environmental management and environmental protection. It is the initial purpose of the hotel owner when operating the hotel to conserve the natural resources and surrounding environment at the same time. I realise that the present environmental issues in Phuket are a result of the lack of environmental awareness among most Thai people".*

HC5R28: *"Traditionally, the greatest effort that we have initiated in the hotel in line with protecting the environment comes from the attention of the hotel owner. After we had done some of environmental practice, we received good feedback from guests, staff, and local communities. Then, we continued to develop and improve the standard of our environmental practices".*

HC5R30: *"I think it is the environmental consciousness of the business operators that leads them to take any action on the present environmental problems. If the business owners were environmental aware, they would rather run their businesses in line with protecting the environment. So, it is necessary to support environmental awareness among the business operators, staff, local communities and tourists in dealing with the environmental issues".*

It is clear from the above extracts, at least face of it, that these operators engage in environmental practice as a result of some internalised believe in the protection of the environment and would continue to do so as long as cost did not prove an impediment. In other words, it is the self-satisfaction associated with such practice that causes such hotel operators to become environmentally friendly.

7.3 SUMMARY

This chapter has analysed the results of the returned questionnaires and described the major themes to emerge from the semi-structure interviews. The results from both the mail survey and semi-structure interviews suggest some significant findings relating to the attributes to sound environmentally friendly practice within the Phuket hotel industry and the motivation which underlie the implementation of any environmentally friendly programs.

Like many other tourist destinations, Phuket must deal with the impact from tourism and hospitality industry that supports the local economy. Although a majority of guests are unaware on the effort of the local hospitality industry to operate in an environmentally and socially responsible manner, the findings suggest that hotels

and other tourism-related businesses in the Phuket province need to adopt these practices as a strategy for sustainable tourism development. It is also a tool to preserve Phuket as a tourist destination of international standard, and as a model city with sustainable development and its own architecture, tradition and culture.

The findings also pointed out that the implementation of environmentally friendly practices in hotels is beneficial not only by protection the environment, but also for a number of reasons. It benefits to the hotel owners and management because efficiently run buildings cost less to operate. Guests benefit because an efficiently run hotel satisfies their needs and the hotel benefits because this leads to repeat business. Staff benefits through improved moral and better motivation, which in turn increases productivity and revenue. Furthermore, this indirect benefit to the environment cause by using energy efficiently reduces adverse effects and preserves non-renewable resources for future generations.

However, the results of this study indicate that the achievements of the Phuket hotel industry towards sustainable development might be small compared with those in other cities. This is illustrated by a lack of support for environmental improvement at all levels of government, the business community, non-government organizations (NGOs), and local communities. Most importantly, the findings demonstrate a lack of resources (human and financial) and a lack of expertise within the Phuket hotel industry especially in those with lower classifications, and these are perceived as barriers to becoming environmentally friendly. It is also important to note that most local residents have not yet realized the significance of environmental quality and the principle of sustainable development.

CHAPTER 8
DISCUSSION AND CONCLUSION

8.0 INTRODUCTION

This chapter draws on the major findings of the study and shall relate these to the existing body of literature. It begins with an overview of the study. This is followed by a discussion of the results, with particular emphasis on answering the primary research questions, namely, (1) what evidence is there of sound environmentally friendly practice within the Phuket hotel industry, and (2) what is/are the motivation (s) behind current environmentally friendly practice in the Phuket hotel industry. This chapter also provides a discussion of the implications of the study. The chapter concludes with a discussion on the limitations of the study as well as recommendations for future research and improvement in this area.

8.1 OVERVIEW OF THE STUDY

Globally, there has been an increase in concern about the state of the environment, with government, industry and consumer groups alike championing the cause of environmental sustainability. No where has this been more prevalent than in the international tourism sector, which put simply, relies upon the environment for its very existence. Of central concern here has been the response of the hospitality sector, which as a central component of the broader tourism system and major resource user, has a key role to play with respect to environmental stewardship. The hospitality industry is now facing new challenges relating to environmental stewardship and practice, as contemporary consumers require goods and services to be produced and/or delivered in environmentally friendly ways. As a result, many hospitality professionals are being forced to reconsider their business strategies and activities in line with environmental sustainability. Indeed, a wide range of industries has already responded to consumers' dictates on conservation issues and it is now universally accepted that organisations can only achieve their strategic objectives by adopting an environmentally friendly philosophy. The hotel industry, like any other business sector, can no longer resist this trend.

The focus of this study, therefore, has been to observe the current application of environmentally friendly practice, and to investigate the motivations behind the adoption of this practice within the hotel industry in Phuket, Thailand. This has been

achieved by a survey of 220 hotel properties and interviews with 25 hoteliers in Phuket province, Thailand. More specifically, there have been five general aims in this study. The first aim was to examine the extent of existing environmental practice within the Phuket hotel industry, thereby giving some indication of the current environmental management standard. Secondly, the study has attempted to understand the issue of motivation behind current environmental practice and/or the lack of it. Thirdly, the study has attempted to assess the level of general environmental awareness amongst hospitality professionals within the Phuket hotel industry. Fourthly, the study has attempted to capture the perceptions of actual hospitality practitioners in relation to the broader tourism/environment debate. Finally, this study sought to develop recommendations for a better form of environmental management in Thailand's hotel industry that can be applied to the day-to-day management practices of all hotels.

8.2 DISCUSSION OF THE RESULTS

This section aims to address the major findings that have emerged from both the quantitative and qualitative stages of this study. In addition key observations are also addressed in the context of the two primary research questions and the implications of all of these for industry, the local community (private and public sector), the local environment and actual tourists to the region are discussed. The results are of significance in that they not only paint a picture of existing practice, but also provide some understanding as to why properties are engaged in such practice, as well as offering recommendations for the further development of an environmentally sensitive hospitality product.

8.2.1 WHAT EVIDENCE IS THERE OF ENVIRONMENTALLY FRIENDLY PRACTICE WITHIN THE PHUKET HOTEL INDUSTRY?

As stated previously, the quantitative stage of this study was designed to explore evidence of environmentally friendly practices within the Phuket hotel industry. This has been done by using questionnaires to survey 220 hotels in Phuket province. The questionnaires, which were used for data collection, focused primarily on actual environmental best practice within four target areas including the housekeeping

department, the maintenance department, the administration department, and the kitchen and restaurant department. Certain observations were drawn from the results, particularly in relation to the issue of evidence of best practice and hotel classification standard. Further statistical evidence was generated in order to shed further light on these observations.

8.2.1.1 The Housekeeping Department

a) Evidence of Environmentally Friendly Practice

Although the housekeeping departments of the hotels surveyed did not show strong awareness of the measures that could be taken in this domain, a number of properties have implemented actions to reduce environmental stress. For example, the majority of the respondents did not realise that an alteration to the sheet and towel-washing regime would result in considerable water savings, so only a few hotels gave guests the option of not having their sheets and towels changed daily. Some of these hotels stated that they encouraged guests and staff to help alleviate environmental stress through the provision of information signs in rooms. The Phuket Yacht Club, for example, claimed that hotel laundry loads had been reduced by approximately 25% after installing the water conservation signs in bathrooms (Modak, 1998). There was also evidence of other strategies for reducing water consumption in guestrooms, such as installing dual flush toilets, tap aerator and low-flow showerheads. However, only a small number of the hotels had actually installed dual flush toilets and aerators on taps. More common was the installation of low-flow showerheads in guests' bathrooms. The hotels generally showed little concern about methods used when cleaning guestrooms. Only a few hotels were using low impact environmental cleaning products in guestrooms, whereas most still used disposable products. However, the methods for dealing with the unused cosmetic bathroom portions were beginning to change with some installing dispensers in guest bathrooms. In addition, the majority of respondents stated that they recycled items left in rooms, for example, papers, coat hangers and the prepackaged items were recycled and distributed to other areas. Some hotels suggested further measures, such as recycling stained tablecloths, old sheets, or shower curtains into napkins, chef's aprons, neckties, baby cots or laundry bags.

Based on the findings on the adoption of environmentally friendly practice within the housekeeping departments of the hotels surveyed, it is apparent that hotels in Phuket have not yet developed a strong awareness of the impact of reduced energy and water consumption on their businesses.

In fact, there are a number of practices that can be done to conserve energy and water through good housekeeping department. For instance, installing soap and shampoo dispensers can reduce the cost of hundreds of small plastic bottles and giving guests the option of not having their sheets and towels changed daily, installing low flow shower heads and aerators on sink faucets can make considerable saving in water and energy costs. Recycling containers can be placed in guestrooms or hallways and mop-heads can be cleaned rather than thrown out. Private companies for the hotel laundry also reduces water usage (IHEI, 1996, Kirk, 1996). From instigating these activities, a number of hotels already claim that they can raise awareness while saving natural resources and costs. According to Paul (1995), the Saunders Hotel claims that the hotel saves US\$126,450 and 16.5 million gallons of water by installing thermopane windows and tankless toilets, respectively. The Regent Cha-Am Beach Resort, a four star hotel in Thailand, claims that the hotel saves about 45% on water consumption by maximizing the use of recycled water (Goodno, 1994). Similar evidence of environmentally friendly practice within the housekeeping department has been claimed by the Parkroyal Hotel. This four to five star hotel in Melbourne argues that the installation of water efficient shower roses has halved water consumption from 26 liters of water per minute to 13 liters of water per minute (Victorian Environmental Education Council, 2002). But the adoption of environmentally friendly practice is not limited to the hotels with higher classifications, smaller hotels can also be equally as successful at cutting costs. For example, the Red Roof Inn in Washington claims that the hotel save about 24,000 gallons of water a year by installing aerators and low-flow shower heads. The hotel also points out that the simply method of inserting a toilet tank bag in old toilets saves about one-half gallons of water per flush (Walsh, 2000).

b) Key Correlational Relationships: The Housekeeping Department

Cross tabulation tests were run between question 3 to question 11 (Part I) of the survey to determine the extent of any correlation between the incidence of environmentally friendly practice within the housekeeping department and actual hotel classification. The results showed that the methods for dealing with unused cosmetic portions and hotel classification were significantly different ($P < .05$). This implies that hotels with higher classifications (i.e. four and five star hotels) are more likely to provide dispensers for cosmetic products for more long-term use. Hotels with higher classifications also seemed more concerned with other environmentally friendly practices in guestrooms than hotels with lower classifications. This included using biodegradable products, not using disposable products, key tags and conducting recycling in rooms. However, there was no correlation between not using aerosols and hotel classification. With regard to water management strategies, the chi-square score between installing dual flush toilets and hotel classification was not significantly different. This was also the case for installing aerators on taps. On the other hand, there was a significant difference between installing low-flow showerheads and hotel classification. As such, this implies that hotels with higher classifications tended to implement low-flow showerheads. Therefore, it would appear that there is a strong correlation between certain environmentally friendly practices within the housekeeping departments and actual hotel classifications.

c) Implications for Hotel Housekeeping Departments

It is clear that working in the housekeeping department of any hotel requires careful attention to detail and an in-depth knowledge of cleaning products and their applications. As such, the findings from the housekeeping departments of the hotels surveyed highlight some important implications for Phuket hotels. It is obvious that the frequency of washing bed sheets and towels affects the water demand at the facility, as well as the volume of wastewater that is generated. Thus, the reductions in water consumption have a significant effect on water bills and can also translate into the volume of wastewater coming from the hotel. In the case of the Phuket Yacht Club, for example, the hotel estimates that it saves 70m^3 of water per day, which translates into US\$70 per day in high season and 40m^3 of water or US\$40 per day in the low season from recycling water (Modak, 1998). Therefore, reducing

water consumption and wastewater translates directly into a hotel's profit margin and provides additional impetus for raising staff awareness of the importance of water consumption and the reduction of stress on local water resources. The results from both the survey and interviews of this study also suggest a pattern of simple environmental friendly practice which housekeeping departments in all types of hotels can apply to their day-to-day operation (Table 14).

Table 14: Environmentally Friendly Practice within the Phuket hotel housekeeping department

Environmentally Friendly Practice Within the Housekeeping Department	
Energy Utilization	<ol style="list-style-type: none"> 1. Install key tags in guestrooms; 2. Clean lighting fixtures, reflectors, bulbs and windows regularly to improve light reflection.
Water Conservation	<ol style="list-style-type: none"> 1. Give guests the option of not having sheets or towels changed daily; 2. Install dual flush toilets; 3. Install low flow showerheads and aerators.
Waste Management	<ol style="list-style-type: none"> 1. Install soap and shampoo dispensers; 2. Not using aerosols when cleaning the guest rooms; 3. Place recycling containers in rest rooms or hallways; 4. Support the use of natural products instead of perfumed chemical based products.
Environmental Product Purchasing	<ol style="list-style-type: none"> 1. Use cleaning products with low environmental impact; 2. Use recycled paper products.
Others	<ol style="list-style-type: none"> 1. Educating and supporting staff to be more environmental sensitive; 2. Decorate rooms by using natural and local products.

8.2.1.2 The Maintenance and Engineering Department

a) Evidence of Environmentally Friendly Practice

The maintenance departments of the hotels surveyed showed some active responses to the adoption of environmentally friendly practice. The majority of hotels had installed low-energy bulbs in the open hotel areas including the lobby, guestrooms, hallways and outdoor areas. Informants stated that they were attempting to replace

normal bulbs with low-energy bulbs in order to reduce their energy consumption and thus their energy costs. The majority of hotels surveyed also carried out the regular maintenance of appliances and energy audits. There was also a strong trend towards the installation of curtains around windows. Nevertheless, the maintenance departments had not installed double glazed windows or building insulation.

Thus, based on the findings, the maintenance and engineering departments of the hotels surveyed showed that they were aware and already responding to the global concern for the adoption of environmentally friendly practice within their operations. However, their most common practices were the installation of low-energy light bulbs, conducting the maintenance of appliances and energy audits, utilizing used water, and installing key tag switches, rather than large capital investment improvements such as double glazing or insulation. Nonetheless, their practices were resulting in environmental benefits as well as a reduction in operating costs.

However, there are still a number of initiatives that the hotel maintenance and engineering departments could put in place to care for the environment. For example, the use of reusable air conditioner and furnace filters, or the installation of sliding front doors (IHEI, 1996). According to Green Globe 21 (2000), the Treasure Beach Hotel in Barbados achieved energy savings by replacing louvred windows with airtight sash windows in all guest bedrooms which resulted in a saving of 6.12 kWh per bed night. Moreover, the Parkroyal, Melbourne, is looking to install automatic sliding doors, the cost of which would be recovered within the first six months of operation through the conservation of energy (Victorian Environmental Education Council, 2002).

b) Key Correlational Relationships: The Maintenance and Engineering Department

Once again, a number of key observations were made with respect to provision on this front and these were again tested. Cross tabulation tests were run between question 15 to question 22 (Part II) of the questionnaires. The results suggested that most hotels with higher classification tended to install curtains, conduct energy audits and recycle grey water. However, the installation of building insulation and

double-glazing did not differ across hotel classification. Overall, therefore, there was not shown to be a strong correlation between the incidence of environmentally friendly practices within the maintenance department and hotel classification.

e) Implications for the Hotel Maintenance and Engineering Departments

There is evidence that energy consumption is a key environmental issue for the maintenance department of hotels. Previous research (Mander, 1998) has indicated that of all the types of energy consumed by a hotel, electricity consumption dominates both in terms of the energy units used and costs of supply. As a result, reducing electricity consumption can have a direct and significant impact on the total cost of energy consumption in hotels. The pattern of electricity consumption in hotels depends largely on the types of lights in use, the routine servicing of electrical appliances and energy audits. However, building insulation and double-glazed windows also have an impact.

This study revealed that the majority of properties did little to reduce energy consumption. According to Kahlenborn (1998), however, simple measures such as the installation of energy monitoring devices and energy efficient lighting systems can lead to a reduction in energy consumption of between 10 and 20 percent. In the case of a small Tunisian resort hotel with 300 beds, a package of these easy-to-apply measures led to cost reductions of more than \$US 10,000 each year. Similarly, Mead and Monaco (1999) point out that the considerable difference between a green hotel and the average hotel is over 47 million kilowatt-hours per year. Green hotels will use one third less electricity than the average, and two-thirds less electricity than an inefficient hotel. This shows that reductions in energy consumption translate directly to cost savings. It is suggested that additional energy saving measures should be implemented by hotels, and that more incentives in terms of funds and expertise should be considered by the government. This would enable Phuket hotels to invest in more effective energy saving measures.

8.2.1.3 The Administration Department

a) Evidence of Environmentally Friendly Practice

The majority of the administration departments indicated that they used both sides of paper before discarding it and that they recycled paper and other stationery from the office. Although the administration departments seemed the most aware of wastage and tended to recycle their office stationery, only a small number purchased recycled stationery and bought office materials in bulk. Some hotels pointed out that it was quite difficult to buy recycled stationery in Phuket province and those that were available were actually more expensive. Thus, it can be argued that the administration departments have not yet completed the whole cycle of waste reduction. Nonetheless the findings support the common view from within the literature, that the administration department was usually the most active hotel department with regard to reducing large quantities of solid waste.

In administrative offices, there are a number of practices that can be implemented, for instance, making discarded paper into scratch pads, having fax machines and printer ink cartridges recharged, using motion sensor light switches, buying recycled products, reusing outdated brochures and used paper, or buying material in bulk (JHEI 1996). In the case of Phuket hotels, however, a significant problem facing the respondents is the difficulty in locating suppliers who would be able to provide environmentally friendly products. The respondents also argued that it was also rather difficult for them to find suppliers who are knowledgeable and supportive of waste reduction compared with most other countries in the region.

b) Key Correlational Relationships: The Administration Department

The administration departments of the hotels not only showed the most positive concern about environmental issues, but also demonstrated a strong correlation between the incidence of environmentally friendly practice and hotel classification. The results from the question 24 to 29 (Part III) indicated that there was a strong difference between hotel classification and office waste reduction practices. Hotels with higher classifications carried out more environmentally friendly practices in office areas than hotels with lower classifications. Respondents from five-star hotels were also more aware of possible savings with internal communication. The majority

tended to reverse previously used paper, or uses a notice board or electronic mail instead of using A4 paper.

c) Implications for Hotel Administration Departments

A major waste area in administration departments is waste paper (Mander, 1998). Thus, a key strategy for hotel administration departments to improve their environmental performance is a reduce-reuse-recycle policy. Although the whole cycle of waste reduction is not always carried out, this study reveals that office staff were more committed to environmentally friendly practice and adopted more appropriate practices than other areas of the hotel industry. However, as with the housekeeping department, a major obstacle for hotel administration departments in turning green is the limited availability of environmentally friendly product suppliers. Therefore, it is recommended that the Thai government in conjunction with the Tourism Authority of Thailand (TAT) and Thai Hotel Association (THA) support the search for suppliers who are supportive of resource reduction and have reviewed their own practices to reduce waste or provide recyclable packaging.

8.2.1.4 The Kitchen and Restaurant Department

a) Evidence of Environmentally Friendly Practice

Kitchens and restaurants seem to be the least environmentally friendly of all departments within the Phuket hotel industry. The findings indicate that the majority of hotels do not recycle food scraps, oils and fats from the kitchens. In addition, kitchen personnel did not exercise positive environmentally friendly practice when purchasing goods for the kitchen. It was found, however, that kitchen departments were generally most effective on packaging reduction, and a small number even made an effort to purchase organic products and to ask suppliers to take their packaging back.

Based on the findings, the kitchen and restaurant departments have not yet recognized the benefits of adopting environmentally friendly practices. In global terms, "the kitchen and restaurant of any hotel establishment is one of the biggest culprits when it comes to disposing of oils or food waste in the waste water system" (Lynn, 1999, p.288). Most commercial kitchens in developed countries are required

by law to use a grease arrestor to avoid pollutants being discharged into the waste disposal system. In the case of the Thai hotel industry, however, there is little legislation for environmental management and many local hotels still ignore what requirements there are (Mander, 1998). Nonetheless, there are a number of simple methods for reducing waste, avoiding pollution and at the same time saving money that could be implemented. These include turning off all kitchen equipment when not in use, minimizing the opening of doors of cool rooms and freezers, selling food scraps to local farmers, returning corks to wine companies, providing dispensers rather than packaged single serves, using organically grown vegetables and herbs or operating dishwashers at full capacity to minimize the number of loads (IHEI, 1996; Mander, 1998).

b) Key Correlational Relationships: The Kitchen and Restaurant Department

The kitchen and restaurant departments were another area that showed a strong correlation between hotel classification and the incidence of environmentally friendly practice. Hotels with higher classifications were more likely to recycle food scraps, oils and fats than those with lower classifications. In addition, a strong correlation was found between hotel classification and environmentally friendly purchasing strategies for the kitchen. However, the results did not show a significant correlation with respect to returning packaging.

c) Implications for Hotel Kitchen and Restaurant Departments

The findings of this study have highlighted some suggestions for the adoption of environmentally friendly practice within hotel kitchen and restaurant departments. As in any kitchen, chemicals are widely used for cleaning. It is suggested that the Thai Hotel Industry and a major chemical supplier should work together to support the wider use of biodegradable products. In addition, kitchen staff should be trained in improving their environmental practice and should be encouraged to participate in environmental programs, for example, turning off gas burners when they are not in use, using cotton clothes for cleaning whenever possible, using separate bins for the recycling of kitchen glass, paper, plastic, and food, serving soft drinks from a dispenser rather than individual cans, or minimizing the use of oil. Because of the large quantity of waste generated by kitchens (i.e. food scraps, glass, paper, or plastic), it

is suggested that recycling is a key strategy. Not only would this enhance environmental performance, but it would also generate substantial cost savings through reducing the number of garbage collections required. It is recommended that the hotels start recycling on a small scale, particularly glass bottles, tin cans, and corks. Then, this can be expanded to include paper and food waste.

8.2.1.5 Summary of Major Quantitative Findings

In spite of the above limited adoption of environmentally friendly practices, hotel managers showed positive attitudes towards environmental issues. They believed that environmental protection was an important public issue and that it would be advantageous for them to be more environmentally friendly. A number stated that they encouraged suggestions from guests and staff, and that they were willing to spend more initially to buy or use environmentally friendly appliances. A number of hotels admitted, however, that although they had formal environmental policies, there was a lack of correlation between their environmental policies and their actual practices. In other words, their environmental policies are viewed as somewhat superficial. A number of hotels claimed that they were hindered in adopting environmentally friendly practices by a lack of proper knowledge, technical skill, manpower, and financial support. More specifically, there was a demand for codes of conduct for hotels relating to environmental responsibility. This can be illustrated by the general lack of knowledge about these issues, especially in those hotels with lower classifications. It can be concluded, therefore, that although the Phuket hotel industry has not yet grasped the significance of adapting environmentally friendly practices, many of Phuket's hotels are adopting environmentally friendly practices to some degree. However, it is suggested that current environmentally friendly practices within the Phuket hotel industry has been implemented more as a means for hotels to improve their cost efficiency and to gain a better public image than out of any serious concern for the environment.

The findings of this study have revealed that there is a strong correlation between the incidence of adopting environmentally friendly practice and actual hotel classification. That is, hotels with higher classifications are more likely to be introducing environmentally friendly practices within their properties. Smaller

hotels, however, claimed not be able to afford to do this because of the perceived cost of initial set up (eg. key tags, water treatment plants, solar cells etc.). Most hotels with higher classifications had established a formal environmental policy and had encouraged suggestions from guests and staff. Thus they believed environmental protection to be an important public issue and that it would be advantageous for them to be more environmentally friendly. They also pointed out that they were willing to spend more initially to buy or use environmentally friendly appliances. On the other hand, hotels with one and two star classifications showed a lack of awareness of environmental issues and few initial actions.

The results raise the question as to why there is a greater incidence of environmentally friendly practice within hotels with higher classification than hotels with lower classification? Although Dowling (1998) claims that hotels in Phuket have now agreed to accept a set of minimum standards for environmental protection, only a few have done so and have become what might be referred to as environmentally friendly hotels. It is widely acknowledged that the major obstacles to the adoption of environmentally friendly practices are the level of environmental awareness among employees, financial liquidity, environmental technologies, and interest (Conner, 2000; Frabotta, 2001; Woodford, 2002). The results of this research indicate that most Phuket hoteliers perceive that going green costs money. Whilst this is a short-term view, the reality for many hotel operators is that it is simply too costly to turn green. Meade and Monaco (1999) note that the up-front cost of learning how to make the transition, the financing, and implementation of such practices are also perceived barriers to becoming a green hotel in the Jamaican hotel industry. An example of such costs is provided by the Saunders Hotel Group, which spent US\$1.2 million in thermopane windows, US\$90,000 on an energy management system, and US\$33,000 on tankless toilet installation in all three of its hotels in Boston (Paul, 1995). Additionally, Kahlenborn (1998) has found that there is a considerable lack of environmental awareness, technology and financial resources within the hospitality industry, especially in the small and medium sized hotels. As a result, only hotels with higher classifications are reaping the benefits of environmentally friendly practice, and most smaller hotel operators have yet to realise this potential.

This study also found that the majority of hotels in Phuket are those with lower classifications, that is, those which have fewer than 50 rooms. Most can be described as operated by independent entrepreneurs. As a consequence, they would have limited access to environmental management skills and the funding to implement environmentally friendly technology. As such, it can be argued that the most significant reason for the reluctance to make Phuket hotel properties more environmentally friendly is limited financial resources and know how.

To sum up, this study suggests that the key requirement to make the Phuket hotel industry more competitive and profitable and, at the same time, reducing adverse environmental impact, is the provision of education, training and funding to raise awareness. Although the cost of this in man-hours is still a hindrance to many hotels, training is essential for top management levels and for hotel staff. Awareness rising among hotel guests is also important, since cooperation from each of these interest groups is extremely important (Malley, 1999). Raising public and customer awareness is a major issue for hotels, because such awareness will normally lead to support from the public and customers. Therefore, it might be an effective strategy to circulate in-room information leaflets to guests about the hotel's efforts towards environmental improvement. This would not only create a positive image, but would also educate guests about their role in sustainable tourism development. This study also recommends support from the government in terms of environmental education, technical skills, and financial resources. There is evidence that most Phuket hoteliers are willing to turn green if they have access to this sort of assistance. It is recommended that the Thai government in conjunction with the Tourism Authority of Thailand (TAI) and Thai Hotel Association (THA) support the industry in achieving sustainable tourism development by:

1. Promoting awareness among hotels about the economic and environmental benefits of efficient resource management;
2. Holding meetings and workshops as deemed appropriate;
3. Developing and promoting the Green Leaf Program for Phuket hotels;
4. Establishing a strategy for transferring education about the adoption of environmentally friendly practice to hotels with lower classifications; and
5. Publicising the environmental performance of the Phuket hotel industry.

8.2.2 WHAT ARE THE MOTIVATIONS BEHIND CURRENT ENVIRONMENTALLY FRIENDLY PRACTICE WITHIN THE PHUKET HOTEL INDUSTRY?

Previous research (Lin, 1997) suggests that factors that directly affect the operation and management of the business (so called the industry environment) can be grouped into two areas: internal factors and external factors. This question aimed to identify the key drivers of environmentally friendly efforts within the Phuket hotel industry and to consider whether they represent internalised or externally imposed green value systems. In order to achieve this goal, five hotel managers from each hotel classification (twenty-five hotel managers in total) were invited to participate in this more qualitative stage of the study. The following discussion will address the major themes arising from the interviews undertaken with hotel managers/representatives.

8.2.2.1 Internal Factors

This stage of the research identified a number of key factors that the subjects considered important when initiating and implementing environmentally friendly practices. These consisted of cost considerations, quality assurance, consideration of hotel image and the overall marketing strategy, and owner influences.

a) Cost Considerations

Most interviewees claimed that, as a result of the current economic crisis, hotels have attempted to survive by reducing operational costs. The findings of this study suggest that, while many hotel operators are greatly concerned about the environment, their concern is focussed principally on energy and water consumption issues.

b) Consideration of the Hotels Image and the Overall Marketing Strategy

Hotel managers pointed out that making an effort in environmentally friendly activities resulted in a more positive corporate image. Hotels are able to communicate their social and environmental responsibility through their marketing and advertising literature and in doing so positively influence the attitudes of potential consumers. This translates into higher sales and profits. Thus, the common

motivation behind the Phuket hotel industry's willingness to implement environmentally friendly practices is the search for operational and financial advantage.

c) Demands from Owners or Shareholders (Owner Influences)

The results from interviews demonstrated that all respondents were willing to be involved in environmental protection. All twenty-five hotel managers agreed that it is the responsibility of the industry to protect and conserve natural resources and surrounding environments. They believed that operating hotels that are not in harmony with the environment are self-destructive. In fact, seven hotels classified their properties as environmentally friendly hotels. Moreover, they claimed that their current efforts in taking action on environmental issues were partly driven by their environmental consciousness, which represented their internalised green beliefs (Lin, 1997; Wade and Atsaiades, 2001). They also suggested that the key factor in making the Phuket hotel industry more environmentally sensitive was the environmental consciousness of each hotel operator.

d) Implications

A significant problem facing Phuket hotels is the lower level of environmental training for most staff members compared with other countries hotel industries. As environmental education is now regarded as the key contribution to sustainable tourism development, this study suggests that there is an urgent and continuing need to upgrade environmental education amongst Phuket hoteliers and their staff. Environmental concern has led to comprehensive auditing which has identified substantial cost savings, but it has also been seen by management to lead to improved marketing opportunities and better staff morale. According to Devine (2002, p.2) "education which gives them the tools for action is of vital importance to the success of businesses". Enz and Siguaw (1999) note that education gives hotel staff a sense of unity, and through their efforts, they can help to enhance their communities and the public perception of the industry.

8.2.2.2 External Factors

In terms of key external factors, this study reveals some possible external drivers that the subjects considered when implementing environmentally friendly practices. These are a) government regulations, b) green tourists, c) market influences, and d) environmental technologies.

a) Government Regulations

This study found widespread support for the idea that environmental management should not only take the form of environmentally friendly practices by the hospitality industry, but should also be supported by government through more strict environmental regulations linked to environmental protection. There is evidence that the current environmental problems in Phuket are the direct outcome of past tourism policies and poor planning on the part of the Thai government. Although past plans have acknowledged the presence of environmental problems that might jeopardise the industry, they have not put forth any concrete solutions. Li and Zhang (1997) also claim that the lack of government policy enforcement and industry practice is the root-cause of the problems in the Thai tourism and hospitality industry. This research suggests that the greatest concern for the future economic development of Phuket's tourism system is the lack of strict government environmental regulation and guidance. It is time, therefore, for the Thai government to address policy enforcement. More strict policies and regulations need to be developed quickly in order to protect the country's natural resources and environment before it is too late.

b) Green Tourists

According to Long (2001, p.1), "the number of hotels adopting environmentally friendly practice remains limited because of a perception that there is little demand". Similarly, respondents in this study showed a lack of concern for or awareness of consumers' desire for green hotels. They also believed that pressure by consumer and green tourists would not be strong enough to force Phuket hotels to turn green. They pointed out that there are only a small number of green tourists currently coming to Phuket and that few people demanded environmentally friendly accommodation. In fact, some managers argued that most guests did not cooperate with the environmentally friendly efforts that hotels were already making. In other

words, the Phuket hotel sector has not yet experienced strong demand from guests for the adoption of environmentally friendly practice. As such, the influence of the green consumer is negligible.

c) Market Influences

From the marketing point of view, the greening of the hotel industry is "a win-win proposition; hotels save money, guests feel virtuous, and the environment benefits" (Hazell, 2000, p.1). In recent years, hotels all over the world have become more conscious of the amount of energy and water being used unnecessarily and some of them have recognised the benefits of adopting these practices. Hungarian hotels such as the Hotel Hilton in Budapest and Hotel Silvanus in the Danube Bend have improved the quality of their services by introducing environmentally friendly practices. The Hotel Hilton has invested US\$10,000 in its recycling program. This has reduced the volume of general waste by 50%, making the cost of waste disposal much lower (Langenkamp, 1995). Similarly, Hotel Silvanus has experienced cost benefits and guest satisfaction by making efforts on environmental issues (Ches, 1999). According to Conlin (2000), the Concordia Eco-Tents Resort in North America has introduced solar power, collected rainwater, and composted its waste. The Habitat Suites Hotel in Austin uses ionisers to clear dust and odour. In Atlanta, the Ritz-Carlton has created four rooms for allergy-sensitive guests, featuring in-room air cleaners and hypoallergenic bed linens and bath products. L'Hotel in Canada has developed a comprehensive program to conserve energy which saved \$25,000 in the first year of investment. In Australia, the Inter-Continental Sydney has achieved an annual gas saving for the hotel of approximately A\$24,000 (Kirk, 1996; IHEI, 1996).

Thus hotel industries around the world have already responded to consumer dictates on conservation issues and most of them have achieved their strategic objectives by adopting an environmentally friendly philosophy. Since hotels globally have decided to operate in an environmentally friendly way, the Phuket hotel industry can no longer resist this trend. In other words, the Phuket hotel industry has no choice but to adopt environmentally friendly practice. It is a matter of business survival.

d) Environmental Technologies

Several examples of environmentally friendly practices by the International Hotel Environment Initiative concern the use of environmental technologies. Although these environmental technologies have the potential to generate cost savings, most respondents argued that they can not afford to install these technologies because they are too expensive and small hotels, in particular, have very limited financial resources. Many hotels in Thailand still rely on out-date technologies and processing operations which, although cheap, result in major pollution problems (UNEP, 2001). Kahlenborn (1998) points out that while environmental technologies are widely available and are being successfully applied by some entrepreneurs, the level of their use is generally low. In the case of the Phuket hotel industry, this study found that the demand for green technologies is still low due to their relative expense and limited availability. This highlights an opportunity for the Tourism Authorities of Thailand and the Thai Hotel Association to work together to develop economic incentives to encourage the industry to implement environmentally friendly measures in future hotel plans. At the same time, the Phuket hotel industry should work with green suppliers to introduce more environmental technologies and products at lower prices.

e) Implications

Increasing concern over the environmental impact of the hotel industry has led to the recognition of the need for proper legislation. Unfortunately, as noted earlier, there is the lack of government policy enforcement and industry practice that would ensure the adoption of environmentally friendly practice. This study suggests that the future role of the Thai government should be directed towards developing more strict regulation and monitoring of the environmental performance of hotels. Ways to do this might be by holding meetings and/or workshops and producing a more comprehensive green guide for the Thai hotel industry especially for those with lower classifications. Such practice, if well run and promoted, will provide more incentive for hoteliers to improve their performance.

Ample evidence has also been provided from hotels across the world of additional strategies to accommodate environmentally friendly practice. These can provide an impetus to the Phuket hotel industry to develop their own environmentally positive policies. Malley (1999) points out that teaching travellers and guests to preserve the places they visit is fundamental to achieving the adoption of environmentally friendly practice within the industry. In other words, the biggest challenge for the hotel industry is educating travellers to become conservationists. That is, Phuket hotels need to involve guests in their improved practice. Although this study found that the majority of hoteliers interviewed perceived that their guests did not actively participate in their environmentally friendly practices, Graci, Mazzone and Murphy (1998) have found that the majority of hotel customers are willing to participate in the environmentally friendly strategies instigated by hotels. In turn, this can place significant market pressure on hotels. It is suggested that further activities in this direction are desirable for the Thai hotel industry in order to achieve the overall objective of sustaining the countries tourism resource base.

8.2.2.3 Summary of Major Qualitative Findings

Although there is an absence of strict legislation, a number of managers/representatives have been concerned enough to adopt environmentally friendly practices in their hotels and have similar concerns for the local environment. This is clearly as a result of an internalised belief system that going green not only makes good business sense, but also is essential for the long-term sustainability of the Thai tourism industry. That said, only a few are translating their concerns into strong action due to the huge investment they perceive in terms of financial support, technical skill and manpower (Conner, 2000; Frabotta, 2001; Woodford, 2002).

8.3 LIMITATIONS OF THE STUDY

This study was likely to have been influenced by a number of factors arising from the research design. Firstly, this study focuses primarily on hotels located in Phuket province. Thus the outcomes of this study relate only to the Phuket hotel industry, and cannot necessarily be generalised to the broader Thai hotel industry. Secondly, despite the adoption of environmentally friendly practices covering a wide range of environmental concerns; this study has focused primarily on the four target areas of

energy utilisation, water conservation, waste management and environmental product purchasing only. However, it is believed that the above target areas can give a good indication of the general trend in the adoption of environmentally friendly practice within the Phuket hotel industry. Thirdly, this study has been limited with regard to the motivations that stimulate hoteliers in the implementation of environmentally friendly practices (ie. economic issues, legislative issues, social issues and ethical issues). None of these could be explored in great depth as the scale of the adoption of environmentally friendly practice depends largely on the factors within the industry environment (Wade & Atsides, 1996). Fourthly, the researcher's own experience in conducting semi-structured interviews may have limited the data collection. However, it is hoped that experience gained from the pilot interview process of this study would have reduced this limitation. Finally, time and financial constraints have prevented a larger sample and, therefore, the generalisability of the findings.

8.4 RECOMMENDATIONS FOR FUTURE RESEARCH

This study is a first step in the development of research into the environmental consciousness, action and performance of the Phuket hotel industry. It provides insight into what Phuket hotels are currently doing to conserve resources and protect surrounding environments, whether they regard environmentally friendly practices as an important part of their business, and how they reconcile the differences between conducting a business and developing an environmental ethic. Since Phuket is Thailand's premier tourism destination and the environment is, perhaps, Phuket's greatest tourism asset, increased diligence is required on the part of Phuket hotel industry for its own preservation and to set an example for the rest of Thailand.

It is hoped that this study will provide a clearer picture as to the adoption of environmentally friendly practices by this sector and the motivation behind such practice. Notwithstanding the limitations identified, however, this study has extended research in the area of practitioner-based perspective toward the environmental performance of hotels. The study is similar to others where the main priorities of sustainable development have been in the recycling and cost-cutting measures of the International Hotel Environment Initiative (IHEI, 1996), as apposed

to such issues as the aesthetic, cultural or economic impacts of hotels on the broader environment and/or host communities. Thus, it is suggested that future research should look into the above areas in order to ascertain the actual level of environmental concern within industry and the broader host community. Further longitudinal studies would be desirable, in order to examine entry goals, implementation, and ultimately the effectiveness of environmentally friendly practice. Several further research questions have been suggested by the findings, including:

1. What does environmentally friendly practice mean for tourists who come to Phuket province?
2. Does the adoption of environmentally friendly practice in a hotel affect the guests' decision to stay there?
3. Do guests stay in environmentally friendly hotels in preference to a typical hotel establishment?
4. Are environmentally friendly practices only relevant for certain levels of hotels?
5. How do guests define levels of environmentally friendly practice?
6. How can the negative perceptions of some hoteliers toward the adoption of environmentally friendly practices be reconciled so that they can actively participate with those practices?

In addition, a number of recommendations for the improvement of the Phuket hotel industry toward sustainable tourism achievement have been deduced from this study. It is acknowledged that most environmental issues are likely to be of concern to certain stakeholders including the tourism industry, environment supporters and the local community. The following recommendations are targeted therefore at each of these stakeholders. These recommendations provide a useful guide as to what can be done by these separate groups, and how they can work together to provide a sustainable tourism industry.

- **Tourism Industry**

This study suggests that the key requirement to make the Phuket hotel industry more competitive and profitable and, at the same time, reducing the extent of adverse environmental impact, is the provision of education, training and funding to raise environmental awareness. Although the cost of this in man-hours is still a hindrance to many hotels, training is essential for both top management levels and front-line hotel staff. Employees are much more likely to respond to company objectives and action plans if they know exactly what is expected of them. As such, it is recommended that Phuket hotels should provide clear policy that is explained fully and effectively with guidelines on how its objectives should be met. In addition, specific and detailed standards will need to be established for each hotel, as each has its own particular management style.

The raising of awareness and education of tourists is also important, since cooperation from each of these interest groups is extremely important (Malley, 1999). To put it simply, raising public and customer awareness is a major issue for hotels, because such awareness will normally lead to support from the public and customers. Hotel operators should inform and educate their customers on how they can reduce the environmental, social, and cultural impact of their visits to host destinations. One of the most convenient and less expensive strategies might be to circulate in-room information leaflets to guests about the hotel's efforts towards environmental improvement. The newspapers and other media could also be used to report on the environmentally sensitive and insensitive actions of hotels. These would not only create a positive image, but would also educate guests about their role in sustainable tourism development.

- **Environment Supporters**

A number of organisations can be identified in Thailand, which have been active in promoting sustainable tourism with a focus on environmental and related issues for the Thai hotel industry. These organisations, for example, include the Institute of Eco-tourism at Srinakharinwirot University, the Thailand Environmental Institute, the Hotel and Tourism Training Institute, the Thai Hotel Association and the Tourism Authority of Thailand. This study recommends continued and unified

support from these bodies in terms of environmental education, technical skills, and financial resources. There is evidence that most Phuket hoteliers are willing to turn green if they have access to this sort of assistance. It is recommended that the Thai government in conjunction with the Tourism Authority of Thailand and the Thai Hotel Association support the industry in achieving sustainable tourism development by:

1. Promoting awareness among hotels about the economic and environmental benefits of efficient resource management;
2. Holding meetings and workshops as deemed appropriate;
3. Developing and promoting the Green Leaf Program for Phuket hotels;
4. Producing a green guide for Phuket hotels;
5. Establishing a strategy for transferring education about the adoption of environmentally friendly practice to hotels with lower classifications; and
6. Publicizing the environmental performance of the Phuket hotel industry.

• Community

This study reveals that the Phuket local community is not motivated and poorly organised to act as a pressure group or environmental watchdog. But if well organised with the help of government and/or industry, the community can be activated to push the local hotel industry to implement environmentally friendly practices. It is, therefore, recommended that local community should be encouraged to undertake leadership roles in planning and development in every aspect of the Phuket tourism industry with assistance from government, and from local business alike. Instead of hotels, local villages, local residents and schoolchildren should be educated on environmental management and thus lead to environmentally conscious behaviour and activities throughout the community.

To conclude, this study demonstrates that there is a need to establish and strengthen relations between all of the major stakeholders who have a role to play in the continued sustainable development of the Phuket tourism industry. It is strongly recommended therefore, that the Phuket tourism industry, government organisations and local communities should work more closely together, so that they can define their roles in sustainable tourism development and their responsibilities for reducing

detrimental impact on the environment. It is hoped that as a result of this coordination, there would be better development of sustainable tourism, which should offer a greater benefit to the entire Thai tourism and hospitality industry.

8.5 CONCLUSION

The adoption of environmentally friendly practice offers the Phuket hotel industry an opportunity to develop a long-term, sustainable approach to its future development, generating jobs and creating wealth, while at the same time protecting the surrounding environment that is the very backbone of its tourism and hospitality product. Although only a few hotels in Phuket already undertake initiatives to operate in a more environmentally friendly way, other hotels are becoming more aware of the impact of their business on the environment and vice versa. There is evidence that environmentally friendly practices in Phuket hotels have been implemented as a means for hotels to reduce operational costs, improve efficiency, and to remain competitive in the constantly changing hospitality environment. From instigating waste recycling programs, to conducting water and energy saving campaigns and introducing environmental education for hoteliers, staff, and customers, these activities should help raise awareness at the same time as saving the hotels valuable natural and financial resources. Therefore, the adoption of environmentally friendly practice can only serve to sustain the future of the Thai hospitality industry further.

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REFERENCES

- Airect, J., & Settle, R. B. (1985). *The Survey Research Handbook*. Homewood, Illinois: R.Diriwin, Inc.
- Ap, J., & Crompton, J. L. (1998). Developing and testing a tourism impact scale. *Journal of Travel Research*, 37(20), 120-130.
- Arnould, E. J., & Wallendorf, M. (1994). Market-oriented ethnography: interpretation building and marketing strategy formulation. *Journal of Marketing Research*, XXXI, 484-504.
- Asia Pacific News. (2001). *Thai Prime Minister Thaksin Shinawatra Gives Full Backing to Tourism* [on-line]. Available WWW: <http://www.asia-pacific-news.com/s/Editorial-Country-Information.asp?ReportID=21803>
- Australian Tourism Industry Association. (1990). *Code of Environmental Practice for the Australian Tourism Industry*. Western Australia.
- Ayala, H. (1995). Ecoresort: a green masterplan for the international resort industry. *International Journal Hospitality Management*, 14(3-4), 351-374.
- Bogdan, R. C., & Biklen, S. K. (1982). *Qualitative Research for Education: An Introduction to Theory and Methods*. Boston: Allyn and Bacon, Inc.
- Brown, M. (1996). Environmental policy in the hotel sector: "green" strategy or stratagem? *International Journal of Contemporary Hospitality Management*, 8(3), 18-23.
- Budowski, G. (1976). Tourism and conservation: conflict, coexistence or symbiosis. *Environmental Conservation*, 3(1), 27-31.
- Bull, A. (1995). *The Economic of Travel and Tourism* (2nd ed.). Melbourne: Longmann House.
- Burkert, A. J., & Medlink, S. (1982). *Tourism Past, Present, and Future*. London: William Heinemann.
- Burns, P. M., & Holden, A. (1995). *Tourism: A New Perspective*. Great Britain: Prentice Hall.
- Butler, R. W. (1990). Alternative tourism: pious hope or trojan horse? *Journal of Travel Research*, 28(3), 40-45.
- Caidwell, L. K. (1991). Globalizing environmentalism: threshold of a new phase in international relations. *Society and Natural Resources*, 4(3), 259-272.
- Carson, R. L. (1962). *Silent Spring*. Boston: Houghton Mifflin.
- Cartier, M. D. (1997). Mixed waste sorting in Las Vegas. *BioCycle*, 38(1), 32-33.

- Cater, E., & Goodall, B. (1992). Must tourism destroy its resource base? In A. M. Mannion & B. Bowlby (Eds.), *Environmental Issues in the 1990s*. London: Wiley.
- Cater, E., & Lowman, G. (1994). *Ecotourism: A Sustainable Option*. London: John Wiley & Sons Ltd.
- Checkley, A. (1993). *Ecotourism: A Response to Tourist Demand: III International Symposium on Tourism*. Mexico: Mazatlan.
- Ches, M. (1999). *Green Hotelier & Restaurateur Environmental Award 1999: Promoting Sustainable Tourism Hotel Silvanus, Hungary*. [on-line], Available WWW: <http://www.zpoc.hu/forumdny/silvagre.htm>
- Churchill, G. A. (1996). *Basic Marketing Research* (3rd ed.). Fort Worth: Dryden Press.
- Clark, M., Wilkie, M. R., & Wood, R. C. (1998). *Researching and Writing Dissertations in Hospitality and Tourism*. London: The Alden Press.
- Cohen, E. (1996). *Thai Tourism: Hill Tribes, Islands, and Open-Ended Prostitution*. Bangkok: White Lotus.
- Conlin, J. (2000). Green hotel concept sprouts ardent. *Hotel and Motel Management*, 215(6), 61-63.
- Conner, F. L. (2000). Hoteliers and corporate travel buyers to promote "green" hotels together. *Cornell Hotel and Restaurant Administration Quarterly*, 41(5), 16-17.
- Creswell, J. W. (1998). *Qualitative Inquiry and Research Design, choosing among five traditions*. Thousand Oaks, CA: Sage Publications, Inc.
- Cronin, L. (1990). A strategy for tourism and sustainable developments. *Journal of World Leisure and Recreation*, 32(3), 12-18.
- Dennis, B. (1999). Seeing green. *Hotel and Motel Management*, 214(19), 68-70.
- Derrick, A. (1995). *Looking at Tourism*. London: Hodder & Stoughton.
- Dichter, E. (1964). *Handbook of Consumer Motivations: the Psychology of the World of Objective*. New York: McGraw-Hill Book Company.
- Dijkman, J. (1999). *Carrying Capacity: Outdate Concept or Useful Livestock Management Tool?* [on-line], Available WWW: <http://www.odl.org.uk/pdu/drought/dijkman.html>.
- Dowdell, D., & Dowling, R. K. (1996). *The Greening of Perth's Hotels*. Perth: Edith Cowan University.

- Munn, R. E. (1989). Towards sustainable development: an environmental perspective. In F. Archibugi & P. Nijkamp (Eds.), *Economy and Ecology: Towards Sustainable Development*. Netherland: Kluwer Academic Publishers.
- Muqbil, J. (1999). Thailand. *Travel and Tourism Intelligence Country Report*, 1(4), 67-87.
- Murphy, P. E. (1985). *Tourism: A Community Approach*. New York: Methuen.
- Murphy, P. E. (1994). Tourism and sustainable development. In W. Theobald (Ed.), *Global Tourism: The Next Decade*. Oxford: Butterworth Heinemann.
- Nelson, P. (1997). Water and energy management at Conrad Junipers. *Australian Journal of Hospitality Management*, 4(1), 13-41.
- O'Neill, M. A., & Palmer, A. (2001). Survey timing and consumer perceptions of service quality: an overview of empirical evidence. *Journal of Managing Service Quality*, 11(2).
- PATA. (1998). *Asia's Tourism Market: the Ups & Downs*. [on-line], Available WWW: http://www.hotel-online.com/Neo/News/PressRelease1998/PATA_AsiasTourismMarket_Feb1998.htm
- Patton, M. Q. (1990). *Qualitative Evaluation and Research Methods* (2nd ed.). Newbury Park, C.A.: Sage Publications, Inc.
- Paul, G. (1995). Green hotels cut waste and woo guests. *Facilities Design and Management*, 14(1), 33-35.
- Pearce, D. G. (1987). *Tourism Today: A Geographical Analysis*. London: Longman.
- Pleumaron, A. (1999). *Foreign Takeover of Thailand's Tourism Industry: the Other Face of Liberalization* [on-line], Available WWW: <http://www.twinside.org.sg/title/takeover.htm>
- Poon, A. (1993). *Tourism, Technology and Competitive Strategies*. Wallingford: CABI.
- Powers, B. A., & Knapp, T. R. (1995). *A Dictionary of Nursing Theory and Research* (2nd ed.). Thousand Oaks, C.A.: Sage Publications, Inc.
- Powers, T. (1995). *Introduction to the Hospitality* (3rd ed.). New York: Wiley.
- Rangarajan, C. (1998). Defining sustainable development. *Businessline*, 12(24), 1-4.

- Ray, J. (1961). The Wisdom of God Manifest in the Works of Creation. In C. E. Ravens (Ed.), *John Ray Naturalist: His Life and Works*. London: Cambridge University Press.
- Redclift, M. (1987). *Sustainable Development: Exploring the Contradictions*. London: Methuen.
- Rowe, M. (1998). Going green makes sense. *Lodging Hospitality*, 54(3), 26-30.
- Rowe, M. (1999). Make energy management a priority. *Lodging Hospitality*, 55(11), 50-51.
- Rowel, A. (1996). *Green Backlash*. London: Casesell.
- Rushmore, S. (1994). Selecting green hotel suppliers. *Lodging Hospitality*, 50(9), 10-12.
- Ryan, C. (1991). *Recreational Tourism: a Social Science Perspective*. London: Routledge.
- Safir International Hotel Management. (2001). *Management Service: Quality Assurance* [on-line], Available WWW: http://www.safirhotels.com/eng/m3_quality.htm
- Sampson, P. (1996). Commonsense in qualitative research. *Journal of the Market Research Society*, 38(4), 331-338.
- Schrecker, T. (1993). *Sustainable Development: Getting There From Here*. Paper presented at the Canadian Labour Congress and the Nation Round Table on the Environment and the Economic, Canada.
- Schumacher, E. F. (1973). *Small is Beautiful*. London: Blond and Briggs.
- Singh, A. (1997). *Asia Pacific Tourism Industry: Current Trends and Future Outlook* [on-line], Available WWW: http://www.hotel-online.com/~/ofTrends/...nal/AsiaPacificTourismOutlook_1997.htm
- Smiliva, Z. (1995). Environmental issues of alternative tourism. *Council of Europe*, 119-121.
- Snarr, J., & Pezza, K. (2000). *Recycling Guidebook for the Hospitality and Restaurant Industry*. Washington: The Metropolitan Council of Government.
- Snowdon, W. (1995). *Ecotourism and Natural-based Tourism: Taking the Next Steps*. Australia: The Ecotourism Association of Australia.
- Stabler, M. J., & Goodall, B. (1997). Environmental awareness, action and performance in the Guernsey hospitality sector. *Tourism Management*, 18(1), 19-33.

- Stephen, P. R., Bruce, M., Ron, C., & Terry, W. M. (1998). *Organisational Behaviour*. New York: Prentice-Hall.
- Stipanuk, D. M., & Ninemeir, J. D. (1996). The future of the U.S. lodging industry and the environment. *Cornell Hotel and Restaurant Administration Quarterly*, 37(5), 74-85.
- Strauss, A. (1987). *Qualitative Analysis for Social Scientists*. New York: Cambridge University Press.
- Strauss, A., & Corbin, J. (1990). *Basics of Qualitative Research: Grounded Theory Procedures and Techniques*. Newbury Park, C.A.: Sage Publication, Inc.
- Streubert, H. J., & Carpenter, D. R. (1995). *Qualitative Research In Nursing Advancing the Humanistic Imperative*. Philadelphia: J.B. Lippincott Company.
- Teerasat, S. (1999). *An Environmental Management Manual: ISO 14000*. Bangkok: Technology Promotion Association(Thailand-Japan).
- Thai Farmers Research Center. (1999). *Tourism in the First Half: Generating Bt 138 Billion* [on-line], Available WWW: <http://www.tfrc.co.th/tfrc/cgi/ticket/ticket.exe/4461337028/tfrc/eng/brief/br199/aup/btou614.htm>
- Thai Hotel Association. (2001). *Phuket Heading for the Room Oversupply* [on-line], Available WWW: <http://www.thaihotels.org/thaihotels/aboutTHA/news/index.htm>
- Thailand Development and Research Institute. (1997). Thailand tourism: vision 2012. *TDR Quarterly Review*, 12(2), 14-24.
- Thailand Development and Research Institute. (2000). *Thailand Tourism's Revenue*. Bangkok: TDR.
- The Ecologist. (1972). Blueprint for survival. *The Ecologist*, 2(1), 1-43.
- Theobald, W. (1994). Global tourism: the next decade. *Journal of Sustainable Tourism*, 6(2), 155-172.
- Tourism Authority of Thailand. (1999 a). *Tourism Situation in 1998*. Bangkok: TAT.
- Tourism Authority of Thailand. (1999 b). *Touristical Statistic: Domestic/South Region*. Phuket: TAT (South Office: Region4).
- Tourism Authority of Thailand. (2000 a). *Accommodation List In Phuket*. Phuket: TAT (South Office: Region4).
- Tourism Authority of Thailand. (2000 b). *Thailand Tourism Statistical Report 2000*. Bangkok: TAT.

- Tourism Authority of Thailand. (2001 a, January). Overseas Market. *Tourism Business Magazine*, 1, 10-11.
- Tourism Authority of Thailand. (2001 b). *Thing to See and Do* [on-line], Available WWW: <http://www.tat.or.th/province/south/phuket/index.htm>
- Tull, D. S., & Hawkins, D. I. (1990). *Marketing Research: Measurement and Method* (5th ed.). New York: MacMillan Publicising Company.
- Turner, R. K., Pearce, D., & Bateman, I. (1994). *Environmental Economics: an Elementary Introduction*. British: Simon and Schuster.
- United Nation. (2000). *Economic Aspects of Sustainable Development in Thailand* [on-line], Available WWW: <http://www.un.org/esa/agenda21/natlinfo/countr/thai.htm>
- United Nation Environmental Program. (2001). *Working Group on Sustainable Product Development: Research Program* [on-line], Available WWW: <http://www.unep.frw.uva.nl/>.
- Urry, J. (1990). The consumption of tourism. *Sociology*, 24(1), 23-35.
- Valentine, A. L. (2001). Certified green: designing eco-hotels (heating/piping/air conditioning engineering). *HPAC*, 73(2), 28-37.
- Victorian Association for Environmental Education Council. (2002). *An Environmental Education Strategy for the Parkroyal on St. Kilda road* [on-line], Available WWW: <http://www.netSPACE.net.au/~vnaee/Park.htm>
- Wade, J. A., & Atsides, S. (1996). *Managing and Environmental Policy in a Resort Hotel* [on-line], Available WWW: <http://www.columbia.gr/wade.htm>
- Wahab, S., & Pigram, J. (1997). *Tourism, Development and Growth*. London: Routledge.
- Walker, J. R. (1996). *Introduction to the Hospitality*. New Jersey: Prentice-Hall, Inc.
- Walsh, J. P. (2000). Save the water. *Hotel and Motel Management*, 215(19), 156-183.
- Ward, N. K. (1997). *Ecotourism: Reality of Rhetoric (Ecotourism Development in the State of Quintana Roo, Mexico)* [on-line], Available WWW: www.planeta.com/ecotravel/mexico/yucatan/ward/ward5.htm
- Watkins, E. B. (1994). Do guests want green hotel? *Lodging Hospitality*, 50(12), 70-72.
- Weaver, D. (1998). *Ecotourism in the Less Developed World*. New York: CAB International.

- Weaver, D., & Oppermann, M. (2000). *Tourism Management*. Queensland: John Wiley & Sons Ltd.
- Weenink, N. J. (1994). The hospitality industry and energy management. *Journal of Hospitality Management*, 1(1), 9-12.
- Wengraf, T. (2001). *Qualitative Research Interviewing: Semi-Structured, Biographical & Narrative Methods*. London: Sage Publications.
- White, L. (1967). The historical routes of our ecological crisis. *Science*, 12(155), 1203-1207.
- Wight, P. (1998). Tools for sustainability analysis in planning and managing tourism and recreation in the destination. In C. M. Hall & A. A. Lew (Eds.), *Sustainable Tourism*. New York: Addison Wesley Longman.
- Wired Destinations. (2000). *Phuket Travel Information* [on-line]. Available WWW: <http://www.phuket.travel.org/phuket/general/free/preservation.htm>
- Withiam, G. (1993). Green hotels. *Cornell Hotel and Restaurant Administration Quarterly*, 34, 21.
- Withiam, G. (2000). Going forward: asian recovery. *Cornell Hotel and Restaurant Administration Quarterly*, 41(5), 14-15.
- Woodford, J. (2002). *Training is the Key to Environmental Performance Improvement* [on-line]. Available WWW: http://www.envirospace.com/training/view_article.asp?article_id=253
- World Commission on Environment and Development. (1987). *Our Common Future*. New York: Oxford University Press.
- World Tourism Organisation. (2000). *WTO Tourism Statistics Database* [on-line]. Available WWW: <http://www.world-tourism.org/esta/stateserv.htm>
- World Travel and Tourism Council. (2001). *World Travel and Tourism Competitiveness Monitor: Thailand* [on-line]. Available WWW: <http://www.wttc.org/monitor/country.asp?id=111>
- World Travel and Tourism Environmental Review Council. (1993). *World Travel and Tourism Environmental Review*. Oxford: World Travel and Tourism Research Center.
- Zhao, J. L., & Merna, K.M. (1992). The impact analysis and the international environment. In R. Teare, & Olsen, M. (Ed.), *International Hospitality Management*. London: Pitman Publishing.
- Zikmund, W. (1996). *Business Research Methods* (5th ed.). Chicago: Dryden.

APPENDIX A
SURVEY QUESTIONNAIR

**HOW GREEN IS YOUR HOTEL?
AN EXAMINATION OF ENVIRONMENTALLY FRIENDLY
PRACTICES OF THE PHUKET HOTEL INDUSTRY**

Dear Manager,

This questionnaire is designed to discover how you feel about the environmental practices of hotels in Phuket, Thailand and in particular your hotel. The survey is being carried out as part of a Master's Degree in the School of Marketing, Hospitality Management of Edith Cowan University, Perth, Western Australia. Your input is vital to assist in both the study research and the understanding of what are the current standards of environmental practice in the Phuket hotel industry. You are invited to spend a few minutes of your time sharing your thoughts on the subject with us.

Almost all of the questions can be answered simply by ticking either Yes or No, however a few questions do require brief answers. If you wish to add any further comments to the questionnaire you are invited to do so. If you need any clarification or wish to know more about this research please do not hesitate to contact the undersigned.

Thank you for your cooperation.

Mr. Aungkon Thongkao
Master Degree Candidate.
School of Marketing, Hospitality Management
Faculty of Business & Public Management
Edith Cowan University
Perth, Western Australia 6027

INSTRUCTIONS

- ◆ Please complete the entire survey
- ◆ Where possible, please place comments about the actions of the hotel
- ◆ Once survey has been completed please return before **15th October 2001**.

Return address:

Mr. Aungkon Thongkao
Rajabhat Institute Phuket,
21/39 Thepkasattree Road, Muang District
Phuket, Thailand 83000
Phone: (66)(076) 240059

- Airect, J., & Settle, R. B. (1985). *The Survey Research Handbook*. Homewood, Illinois: R. Driwin, Inc.
- Ap, J., & Crompton, J. L. (1998). Developing and testing a tourism impact scale. *Journal of Travel Research*, 37(20), 120-130.
- Arnould, E. J., & Wallendorf, M. (1994). Market-oriented ethnography: interpretation building and marketing strategy formulation. *Journal of Marketing Research*, XXXI, 484-504.
- Asia Pacific News. (2001). *Thailand Prime Minister Thaksin Shinawatra Gives Full Backing to Tourism* [on-line]. Available WWW: <http://www.asia-pacific-news.com/s/Editorial-Country-Information.asp?ReportID=21803>
- Australian Tourism Industry Association. (1990). *Code of Environmental Practice for the Australian Tourism Industry*. Western Australia.
- Ayala, H. (1995). Ecoresort: a green masterplan for the international resort industry. *International Journal of Hospitality Management*, 14(3-4), 351-374.
- Bogdan, R. C., & Biklen, S. K. (1982). *Qualitative Research for Education: An Introduction to Theory and Methods*. Boston: Allyn and Bacon, Inc.
- Brown, M. (1996). Environmental policy in the hotel sector: "green" strategy or stratagem? *International Journal of Contemporary Hospitality Management*, 8(3), 18-23.
- Budowski, G. (1976). Tourism and conservation: conflict, coexistence or symbiosis. *Environmental Conservation*, 3(1), 27-31.
- Bull, A. (1995). *The Economic of Travel and Tourism* (2nd ed.). Melbourne: Longman House.
- Burkert, A. J., & Medlink, S. (1982). *Tourism Past, Present, and Future*. London: William Heinemann.
- Burns, P. M., & Holden, A. (1995). *Tourism: A New Perspective*. Great Britain: Prentice Hall.
- Butler, R. W. (1990). Alternative tourism: pious hope or trojan horse? *Journal of Travel Research*, 28(3), 40-45.
- Caldwell, L. K. (1991). Globalizing environmentalism: threshold of a new phase in international relations. *Society and Natural Resources*, 4(3), 259-272.
- Carson, R. L. (1962). *Silent Spring*. Boston: Houghton Mifflin.
- Cartier, M. D. (1997). Mixed waste sorting in Las Vegas. *BioCycle*, 38(1), 32-33.

- Cater, E., & Goodall, B. (1992). Must tourism destroy its resource base? In A. M. Mannion & B. Bowby (Eds.), *Environmental Issues in the 1990s*. London: Wiley.
- Cater, E., & Lowman, G. (1994). *Ecotourism: A Sustainable Option*. London: John Wiley & Sons Ltd.
- Checkley, A. (1993). *Ecotourism: A Response to Tourist Demand: III International Symposium on Tourism*. Mexico: Mazatlan.
- Ches, M. (1999). *Green Hotelier & Restaurateur Environmental Award 1999: Promoting Sustainable Tourism Hotel Silvanus, Hungary*. [on-line], Available WWW: <http://www.zpook.hu/forumday/silvgree.htm>
- Churchill, G. A. (1996). *Basic Marketing Research* (3rd ed.). Fort Worth: Dryden Press.
- Clark, M., Wilkie, M. R., & Wood, R. C. (1998). *Researching and Writing Dissertations in Hospitality and Tourism*. London: The Alden Press.
- Cohen, E. (1996). *Thai Tourism: Hill Tribes, Islands, and Open-Ended Prostitution*. Bangkok: White Lotus.
- Conlin, J. (2000). Green hotel concept sprouts ardent. *Hotel and Motel Management*, 215(6), 61-63.
- Conner, F. L. (2000). Hoteliers and corporate travel buyers to promote "green" hotels together. *Cornell Hotel and Restaurant Administration Quarterly*, 41(5), 16-17.
- Creswell, J. W. (1998). *Qualitative Inquiry and Research Design, choosing among five traditions*. Thousand Oaks, CA: Sage Publications, Inc.
- Cronin, L. (1990). A strategy for tourism and sustainable developments. *Journal of World Leisure and Recreation*, 32(3), 12-18.
- Dennis, B. (1999). Seeing green. *Hotel and Motel Management*, 214(19), 68-70.
- Derrick, A. (1995). *Looking at Tourism*. London: Hodder & Stoughton.
- Dichter, E. (1964). *Handbook of Consumer Motivations: the Psychology of the World of Objective*. New York: McGraw-Hill Book Company.
- Dijkman, J. (1999). *Carrying Capacity: Outdate Concept or Useful Livestock Management Tool?* [on-line], Available WWW: <http://www.odi.org.uk/jpdu/drought/dijkman.html>.
- Dowdell, D., & Dowling, R. K. (1996). *The Greening of Perth's Hotels*. Perth: Edith Cowan University.

- Dowling, R. K. (1991). *Ecotourism Incorporating the Global Classroom*. Paper presented at the 1991 International Conference Papers, Australia.
- Dowling, R. K. (1998). *Ecotourism In Southeast Asia: Appropriate Tourism or Environmental Appropriation?* [on-line], Available WWW: http://www.hotel-online.com/Neof/Trends/AsiaPaci../July98_EcotourismSoutheastAsia.htm
- Dunlap, P., & Scare, R. (1991). Environmental problems and protection. *Public Opinion Quarterly* (53), 651-672.
- Dunlap, R. E. (1991). Trends in public opinion toward environmental issues 1965-1990. In P. McDonagh & A. Prothero (Eds.), *Green Management: A Reader*. Great Britain: The Dryden Press.
- Ehrlich, P. (1968). *The Population Bomb: Population Control or Race to Oblivion*. New York: Ballantine Books.
- Emory, C. W., & Cooper, D. R. (1991). *Business Research Methods* (4th ed.). Boston: IRWIN.
- Energy Efficient Office. (1993). *Energy Consumption Guide 36: Energy Efficiency in Hotels*. London: HMSO.
- Enz, C. A., & Siquaw, J. A. (1999). Best hotel environmental practices. *Cornell Hotel and Restaurant Administration Quarterly*, 40(5), 72-77.
- Farrell, B. H. (1999). Conventional or sustainable tourism?: no room for choice. *Tourism Management*, 20, 198-191.
- Fennell, D. A. (1999). *Ecotourism: An Introduction*. London: Routledge.
- Foley, M., Lennon, J. J., & Maxwell, G. A. (1997). *Hospitality, Tourism and Leisure Management*. London: Casesell.
- Font, X., & Tribe, J. (2001). Promoting green tourism. *International Journal Tourism Reservation*, 3, 9-21.
- Frabotta, D. (2001). Compact fluorescence complement rooms. *Hotel and Motel Management*, 216(3), 48-49.
- France, L. (1997). *The Earthscan Reader in Sustainable Tourism*. London: Earthscan Publications.
- Ghauri, P., Gronhanug, K., & Kristianslund, I. (1995). *Research Methods in Business Studies: a Practical Guide* (1st ed.). Hertfordshire: Prentice-Hall.
- Glanzrock, P. (1995). Green hotels cut waste and woo guests. *Facilities Design and Management*, 14(1), 33-35.

- Globe'90. (1996). *Tourism Stream Conference: Action Strategy for Sustainable Tourism Development*. Ottawa: Tourism Canada.
- Gonzales, G. (1996). *Sustainable Tourism* [on-line], Available WWW: <http://www.sustreport.org/background/definitions.htm>
- Goodno, J. B. (1994). Thal Hotels Maximize Use of Recycled Water. *Hotel and Motel Management*, 209(11), 16.
- Graci, S., Mazzone, G., & Murphy, L. (1998). *Research and Recommendations on Environmental Improvements in Toronto's Hotel Sector* [on-line], Available WWW: <http://www.utoronto.ca/ca/envstudy/IN1493/corecpt.htm>
- Green Globe 21. (2000). Green Globe certification helps companies to achieve energy savings. *Green Globe News*, 3, 1-12.
- Hager, M. (1990). What you can do to save the Earth? *Consumer Digest*, March/April, 61-62.
- Hall, C. M. (1994). *Tourism in the Pacific Rim: Development, Impacts and Markets*. Melbourne: Longman Cheshire Pty. Ltd.
- Hall, C. M. (1995). *Introduction to Tourism in Australia: Impacts, Planning and Development* (2nd ed.). Melbourne: Longman Australia Pty. Ltd.
- Hall, C. M. (1998). *Introduction to Tourism* (3rd ed.). South Melbourne: Addison Wesley Longman Australia Pty. Ltd.
- Harris, R., & Leiper, N. (1995). *Sustainable Development and Tourism: An Australia Perspective*. NSW: Butterworth-Heinemann Australia.
- Hart, S. L. (1997). Strategies for a sustainable world. *Harvard Business Review*, Jan-Feb, 67-76.
- Hart, W. (1993). The three Rs. *Cornell Hotel and Restaurant Administration Quarterly*, 34(5), 18-21.
- Hawaii Tourism Authority. (1996). *Ecotourism Opportunities for Hawaii's Visitor Industry* [on-line], Available WWW: <http://kumu.icsd.hawaii.gov/tourism/Eco/Eco6a.htm>
- Hawkins, D. E. (1982). *Social and Economic Impact of Tourism on Asia Pacific Region*. Tokyo: Asian Productivity Organisation.
- Hobson, J. S., & Teanff, J. D. (1994). Hospitality and leisure/recreation: towards an understanding of an emerging partnership serving the tourism industry. *Journal of Hospitality and Leisure Marketing*, 2(1), 43-54.
- Hoeplf, M. C. (1997). Choosing qualitative research: a primer for technology education researchers. *Journal of Technology Education*, 9(1), 1-17.

- Hopkins, W. G. (1998). *Quantitative Research Design* [on-line], Available WWW: <http://www.sportsci.org/resource/design/design.htm>
- Huberman, M., & Miles, M. (1994). Data management and analysis methods. In N. Denzin & Y. Lincoln (Eds.), *Handbook of Qualitative Research*. Thousand Oaks, CA: Sage Publication, Inc.
- Hunter, C. (1995). Key concept for tourism and the environment. In C. Hunter & H. Green (Eds.), *Tourism and the Environment: A Sustainable Relationship?* London: Routledge.
- Hunter, C., & Green, H. (1995). *Tourism and the Environment: A Sustainable Relationship?* London: Routledge.
- Hussey, J., & Hussey, R. (1997). *Business Research: A Practical Guide for Understanding and Postgraduate Students*. London: Macmillan Press.
- International Hotel Association. (1995). *The Environmental Action Pack for Hotels*. Paris: UNEP Industry and Environment.
- International Hotel Environment Initiative. (1996). *Environmental Management for Hotels* (2nd ed.). Oxford: Butterworth-Heinemann.
- Iwanowski, K., & Rushmore, C. (1994). Introducing the eco-friendly hotel. *Cornell Hotel and Restaurant Administration Quarterly*, 35(1), 34-38.
- Jafari, J. (1977). Editor's page. *Annals of Tourism Research*, 5-11.
- James, D. E., P., N., & Opschoor, J. B. (1989). Ecological sustainability and economic development. In F. Archibugi & P. Nijkamp (Eds.), *Economy and Ecology: Towards Sustainable Development*. Netherlands: Kluwer Academic Publishers.
- Kahlenborn, W. (1998). Environmental technology and tourism. *Tourism Recreation Research*, 23(1), 93-95.
- Khan, A. (1995). Sustainable development: the key concepts, issues and implications. *Sustainable Development*, 3(2), 63-69.
- Kirk, D. (1996). *Environmental Management for Hotels: A Student's Handbook*. Great Britain: Butterworth-Heinemann.
- Knafl, K., Pettengill, M. W., & Kirchoff, K. T. (1998). Blending qualitative and quantitative approaches to instrument development and data collection. *Journal of Professional Nursing*, 4(Jan-Feb), 30-37.
- Kontogeorgopoulos, N. (1998). Tourism in Thailand: patterns, trends, and limitations. *Pacific Tourism Review*, 2, 225-238.

- Krueger, T. (2000). *Tourism in Thailand (THAITOURCASE)* [on-line], Available WWW: <http://www.american.edu/led/THAITOUR.htm>
- Krutch, J. W. (1965). *Thoreau: Walden and other Writings*: Bantam.
- Langenkamp, K. (1995). Hotel managers realise green is not just the color of money. *The Regional Environmental Centre for Central and Eastern Europe*, 4(4), 1-15.
- Leedy, P. D. (1997). *Practical Research: Planning and Design* (6th ed.). New Jersey: Upper Saddle River.
- Lele, S. M. (1991). Sustainable development: a critical review. *World Development*, 19(6), 607-621.
- Li, L., & Zhang, W. (1997). *Thailand: the Dynamic Growth of Thai Tourism*. England: Briddles Ltd.
- Lin, Y. H. (1997). *The Influence of Government Environmental Policy on the Hotel Industry in Taiwan*. Unpublished PhD Thesis, Oxford Brookes University, UK.
- Long, R. (2001). Greener pastures. *Hospitality Design*, 23(6), 65-66.
- Lynn, V. D. W. (1999). *Professional Hospitality: Core Competencies*. Victoria: Hospitality Press.
- MacKinnon, S. (1996). *Waterwise Manual of Best Practice: Water Conservation in Large Hotels and Resorts*. Queensland: West Paper, Ashmore.
- Malley, M. (1999). Turning green practices into greenbacks. *Hotel and Motel Management*, 214(9), 8-10.
- Mander, P. (1998). *Environmental Management in Thailand Hotel Industry*. Canadian University Consortium & Thailand Environmental Institute, Bangkok.
- Mandke, P. R. (1999). *Developing a Strategy to Increase the Participation of Hotels in Environmental Management Programs*. Bangkok: CUC-AIT-UEM.
- Manning, E. W., & Dougherty, T. D. (1995). *Sustainable Tourism: Preserving the Golden Goose*. Ithaca: Cornell University.
- Manning, P., & Cullum, S. B. (1994). Narrative, content, and semiotic analysis. In N. Denzin & Y. Lincoln (Eds.), *Handbook of Qualitative Research*. Thousand Oaks, CA: Sage Publication, Inc.
- Marian, E. (1998). Juggling the demands. *The Environment*, 24(6), 12-24.

- Muthieson, A., & Wall, G. (1982). *Tourism: Economic, Physical and Social Impacts*. London: Longmann.
- McCull, R., Callaghan, B., & Palmer, A. (1998). *Services Marketing: A Managerial Perspective*. Sydney: McGraw-Hill.
- McCormick, J. (1995). *The Global Environmental Movement* (2nd ed.). England: John Wiley & Sons Ltd.
- McIntosh, R. W., Goeldner, C. R., & Brent, R. (1995). *Principles, Practices, Philosophies* (7th ed.). New York: Methuen.
- McKenna, R. (1999). *New Management*. NSW: McGraw-Hill.
- McKereghan, D. L. (1998). *Quantitative versus Qualitative Research: An Attempt to Clarify the Problem* [on-line], Available WWW: <http://www.socrates.fortunecity.com/quq.htm>
- Meade, B., & Monaco, A. D. (1999). *Environmental Management: The Key to Successful Operation*. Paper presented at the First Pan-American Conference, Panama.
- Meadows, D., Randers, J., & Behrens, W. (1972). *The Limits to Growth*. London: Earth Island.
- Meagher, M. (1991). Canadian Environmental Marketing Programs. *The Canadian Green Marketing Alert*, 1(1), 7-10.
- Medlik, S. (1993). *Dictionary of Travel, Tourism and Hospitality*. London: Redwood Book, Trowbridge.
- Menard, S. (1991). *Longitudinal Research*. Newbury Park, CA: Sage Publications, Inc.
- Merchant, C. (1980). *The Dead of Nature: Woman, Ecology and the Scientific Revolution*. San Francisco: Harper and Row.
- Modak, P. (1998). *Environmental Good Practice in Phuket Yacht Club: Thailand* [on-line], Available WWW: http://www.emcentre.com/unepweb/tec_case/ote_55/process/p5.htm
- Moffitt, K., & Engeldrum, D. (1997). *Environmentally Sensitive Hotels* [on-line], Available WWW: <http://www.planeta.com/planeta/97/0597/hotel.htm>
- Mowforth, M., & Munt, I. (1998). *Tourism and Sustainability: New Tourism in the Third World*. New York: Routledge.

แบบสอบถาม

เรื่อง "การประเมินวิธีปฏิบัติที่เอื้อต่อการรักษาสุขภาพสิ่งแวดล้อม
ของบุคลากรทางการแพทย์ในจังหวัดภูเก็ต"

คำชี้แจงโครงการ

แบบสอบถามฉบับนี้มีวัตถุประสงค์เพื่อสำรวจความคิดเห็นของเจ้าหน้าที่ต่าง หน่วยงานและ วิทยาลัยปฏิบัติ ที่เกี่ยวข้องการรักษาสุขภาพสิ่งแวดล้อมของบุคลากรทางการแพทย์ในจังหวัด ภูเก็ตและโดยนัยยะอันเนื่องมาจากการประยุกต์ใช้และการปฏิบัติภายในโรงพยาบาลของท่าน การสำรวจครั้งนี้เป็นส่วนหนึ่งของการทำงานวิจัยของคณะสาธารณสุขศาสตร์ มหาวิทยาลัยศรีนครินทรวิโรฒ ประถมศอกนครบาล ซึ่งมุ่งสอบถามถึงความสำคัญอย่างเร่งด่วนของการสำรวจและการสร้างความเข้าใจถึงมาตรฐานของวิธีปฏิบัติของโรงพยาบาลในจังหวัดภูเก็ต ที่เกี่ยวข้องรักษาคุณภาพของสุขภาพ สิ่งแวดล้อม

คำชี้แจงแบบสอบถาม

1. แบบสอบถามฉบับนี้ประกอบด้วย 5 ส่วน ได้แก่ แบบกรณียาน สหกรณ์ของห้าง สุขภัณฑ์โรงงาน แผนกห้องอาหาร และสถานศึกษาที่เกี่ยวข้องทั้งหมดที่ครอบคลุมทั้งระดับจังหวัดและบุคลากรทางการแพทย์ โรงพยาบาล
2. คำตอบส่วนใหญ่สามารถตอบโดยเลือกคำตอบ ใช่ หรือ ไม่ใช่ อย่างไรก็ดีบาง บางคำถามต้องการคำอธิบายโดยสังเขป ข้างล่าง มีความยินดีอย่างยิ่งหากท่านประสงค์ที่จะเพิ่มเติมคำถามหรือให้คำแนะนำ หรือหากท่านต้องการทราบรายละเอียดเพิ่มเติมเกี่ยวกับงานวิจัยชิ้นนี้ ท่านสามารถติดต่อข้าพเจ้าได้จากที่อยู่ด้านล่าง
3. เนื่องต้นสุดการตอบแบบสอบถาม กรุณาตอบแบบสอบถามลงในซองที่แนบมาด้วย ก่อนวันที่ 15 ตุลาคม 2544

นายอังกูร ทองขาว
สถาบันราชภัฏภูเก็ต
ต.เทพกระษัตรี ต. รัษฎา
อ. เมือง จ. ภูเก็ต 83000

SECTION ONE: HOUSEKEEPING (เฉพาะห้องพัก)

1. How often does the hotel provide sheet changes?

(โรงแรมขอท่านจัดให้เปลี่ยนผ้าปูที่นอนในห้องพักกี่ครั้งต่อสัปดาห์)

- a) Every day (ทุกวัน)
- b) Every 2nd day (ทุก 2 วัน)
- c) Every 3rd day (ทุก 3 วัน)
- d) Others (อื่นๆ)

2. How often does the hotel change towels?

(โรงแรมขอท่านจัดให้มีการเปลี่ยนผ้าเช็ดตัวในห้องพักกี่ครั้งต่อสัปดาห์)

- a) Every day (ทุกวัน)
- b) Every 2nd day (ทุก 2 วัน)
- c) Every 3rd day (ทุก 3 วัน)
- d) Others (อื่นๆ)

3. Are individual packaged goods used in rooms? Yes No

(โรงแรมขอท่านห้มีสินค้าบรรจุซองใส่ไว้ในห้องพักหรือไม่)

- a) Soap (สบู่)
- b) Shampoo (แชมพู)
- c) Others (อื่นๆ)

If so, what is done with the unused portions?

(หากมีสิ่งของเหลือใช้แล้วมีวิธีการเก็บอย่างไร อาทิ บรรจุขวด หรือ บรรจุใน ถาดกระดาษ)

4. Are any aerosols used when cleaning the rooms? Yes No

(โรงแรมขอท่านใช้ผลิตภัณฑ์ทำความสะอาดในห้องพักเป็นสเปรย์หรือไม่)

5. Are the cleaning products used low impact environmental products/biodegradable?

(ท่านเลือกใช้ผลิตภัณฑ์ทำความสะอาดเป็นส่วนประกอบซึ่งมีผลกระทบต่อสิ่งแวดล้อมน้อยหรือไม่)

If No, why not? Yes No

(หากไม่ใช่เหตุผลใดๆ)

6. Are any items left in the rooms recycled? Yes No
 (สิ่งของที่ใช้แล้วในห้องมี ถูกนำกลับมาใช้ใหม่หรือไม่)

If Yes, please tick as many items as appropriate.
 (หาก มีหลายสิ่งของหลายชิ้นถูกนำมาใช้ใหม่ โปรดทำเครื่องหมายถูก หลายครั้ง
 สิ่งที่เหมาะสมกับมาใช้ใหม่)

- a) Papers; fine paper/newspapers
 (กระดาษ อาทิ เอกสารสำนักงาน หนังสือพิมพ์)
 b) Aluminium cans
 (กระป๋องอลูมิเนียม)
 c) Glass bottles
 (ขวดพลาสติก)
 d) Plastic containers
 (ภาชนะพลาสติก)
 e) Coathangers
 (ที่แขวนเสื้อ)
 f) Others
 (อื่นๆ ฯลฯ)

7. Do cleaners use any disposable products when cleaning rooms? Yes No
 (พนักงานทำความสะอาดในห้องของเราน ใช้ผลิตภัณฑ์ทำความสะอาดทิ้ง ในระหว่างการทำความสะอาด
 ห้องหรือไม่)

What types of disposable products are used?
 (หากใช้ ผลิตภัณฑ์ทำความสะอาดทิ้งมีอะไรบ้าง)

8. Are key tags used in rooms for lights? Yes No
 (ระบบที่ใช้ในห้องพัก ถูกควบคุมการทำงานด้วยระบบปุ่มกดหรือไม่)

9. Are toilets dual flushes? Yes No
 (ถังชักโครกในห้องน้ำของโรงแรมเป็นถังชักโครกหรือไม่)

If No, are any other measures taken to reduce water use?
 (หากไม่ใช่ ยังมีวิธีอื่นใดบ้าง ในการลดปริมาณน้ำที่ใช้ในการชักโครก)

10. Are showers fitted with low-flow showerheads? Yes No
 (ท่านเลือกใช้อุปกรณ์ประหยัดน้ำที่ติดตั้งในห้องน้ำหรือไม่)

11. Are taps fitted with aerators? Yes No
(ฝักน้ำติดไว้ที่หรือมีอุปกรณ์ที่ลดน้ำหรือไม่)

12. Are newspapers delivered to rooms? Yes No
(โรงแรมของเรามีจัดส่งหนังสือพิมพ์ถึงห้องพักหรือไม่)

13. Do you have any other comments about the environmental practices of the housekeeping department of this hotel?
(คุณมีข้อสังเกตเพิ่มเติมเกี่ยวกับหน่วยงานของโรงแรมในหัวข้อนี้หรือไม่ กรุณาบอกกล่าวถึงหากมี)

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SECTION TWO: MAINTENANCE (แผนกซ่อมบำรุง)

14. What types of lights (ie: fluorescent, normal bulbs, low energy bulbs) are used in the following areas;
(หลอดไฟที่ใช้ในบริเวณต่อไปนี้ เป็นหลอดไฟชนิดใดบ้าง อาทิ หลอดไฟเรืองแสง หลอดธรรมดา หรือ หลอดประหยัดพลังงาน)

	Fluorescent Bulbs (หลอดไฟเรืองแสง)	Normal Bulbs (หลอดธรรมดา)	Low Energy Bulbs (หลอดประหยัดพลังงาน)	Sport Light Bulbs (หลอดไฟสปอร์ตไลท์)
a) Rooms (บริเวณห้องพัก)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Lobby (บริเวณส่วนรับแขก)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Outdoor areas (บริเวณภายนอกอาคาร)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Hallways/Corridors (บริเวณทางเดินและระเบียง)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

15. Is grey water (ie: water from laundry or roof runoff) utilised by the hotel?
(น้ำที่ผ่านการใช้แล้ว อาทิ น้ำจากเครื่องซักผ้า หรือ น้ำฝนจากหลังคา มีการนำกลับมาใช้ใหม่หรือไม่)
Yes No

16. What chemicals are used in the Swimming Pool(s) and/or Spa(s)?
(สารเคมีชนิดใดบ้าง ที่โรงแรมของเรามีนำมาใช้ในการทำความสะอาดสระว่ายน้ำและสปา)

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.....

17. Are any of these chemicals environmentally friendly? Yes No
(สารเคมีข้างต้นเป็นสารที่รักษาสภาพสิ่งแวดล้อมหรือไม่)

If No, has the hotel considered using more environmentally friendly products? Reasons?

(หากไม่ โรงแรมของท่านได้ให้ความสนใจการใช้ผลิตภัณฑ์ที่เอื้อต่อการรักษาสิ่งแวดล้อมหรือไม่ กรุณาให้เหตุผล)

18. Are routine services conducted on;
(โรงแรมของท่านมีการตรวจสอบสภาพของอุปกรณ์หรือใช้ต่อไปได้จนกระทั่ง
ดำเนินการไว้เมื่อไหร่หรือไม่)

- | | | | |
|--|------------------------------|-----------------------------|------------------------------|
| a) Air conditioners
(เครื่องปรับอากาศ) | Yes <input type="checkbox"/> | No <input type="checkbox"/> | How often _____
(ความถี่) |
| b) Microwaves
(เตาไมโครเวฟ) | Yes <input type="checkbox"/> | No <input type="checkbox"/> | " " _____ |
| c) Hot water machine
(เครื่องทำน้ำอุ่น) | Yes <input type="checkbox"/> | No <input type="checkbox"/> | " " _____ |
| d) Refrigerators
(ตู้เย็น) | Yes <input type="checkbox"/> | No <input type="checkbox"/> | " " _____ |

19. Are energy audits conducted? Yes No
(โรงแรมของท่านมีการตรวจสอบค่าไฟฟ้าหรือไม่)

20. Is the hotel building insulated? Yes No
(ตัวอาคาร มีการควบคุมอุณหภูมิเพื่อความเย็นหรือไม่)

21. Are curtains tightly fitted around windows? Yes No
(มู่ลี่หรือผ้าม่านที่หน้าต่าง ปิดแน่นดูมิดชิดอย่างเหมาะสมหรือไม่)

22. Are windows double-glazed? Yes No
(หน้าต่างที่ติดตั้ง เป็นหน้าต่างแบบ 2 ชั้นหรือไม่)

23. Do you have any other comments about the environmental practices of the Maintenance Department of this hotel?

(ท่านมีข้อแนะนำหรือข้อสังเกตอื่น ๆ เกี่ยวกับวิธีปฏิบัติที่ดำเนินการรักษาสภาพสิ่งแวดล้อมหรือไม่)

SECTION THREE: OFFICE (สำหรับพนักงาน)

24. Do you purchase recycled stationery?
(ท่านได้ซื้อวัสดุสำนักงานที่สามารถนำกลับมาใช้ใหม่ได้หรือไม่) Yes No
25. Do you recycle paper?
(ท่านได้นำกระดาษที่ใช้แล้วกลับมาใช้ใหม่หรือไม่) Yes No
26. Are printer ribbons re-inked?
(ท่านใช้ริบบิ้นที่เติมหมึกหรือไม่) Yes No
- If yes, how often before they are replaced?
(หากใช่ มีหมึกเติมก่อนจะนำริบบิ้นมาเปลี่ยนกี่วัน).....
27. How are internal office communications and memos sent?
(ท่านใช้วิธีการใดในการสื่อสารกับพนักงานคนอื่น อาทิ ใช้บันทึกย่อส่ง หรือกระดาษข่าวสาร)
-
-
28. Are both sides of the paper used to reduce paper usage in the office?
(เพื่อเป็นการลดปริมาณการใช้กระดาษในสำนักงาน ท่านใช้กระดาษทั้งสองด้านหรือไม่) Yes No
29. When purchasing, are opportunities taken to buy materials in bulk?
(ในการซื้อวัสดุสำนักงานแต่ละครั้ง มีโอกาสที่จะไปรวมกันซื้อวัสดุเหล่านี้ในปริมาณมากหรือไม่) Yes No
30. Do you have any other comments about the environmental practices of the offices in this hotel?
(ท่านมีข้อเสนอแนะหรือข้อสงสัยเกี่ยวกับสำนักงานแห่งนี้หรือไม่ ตัวอย่างปัญหาคืออะไรบ้าง กรุณาบอกถึงรายละเอียด)
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-
-

SECTION FOUR: KITCHEN (สำหรับห้องครัวและห้องอาหาร)

31. Do you recycle food scraps?
(เศษอาหารที่เหลือใช้แล้ว มีการนำกลับมาใช้ใหม่หรือไม่) Yes No
32. Are oils and fats from the kitchen recycled?
(น้ำมัน และไขมัน จากห้องปรุงอาหาร ถูกนำกลับมาใช้ใหม่หรือไม่) Yes No

33. What issues are considered when purchasing goods for the kitchen? Please tick as many items as appropriate.

(ประเด็นที่โรงแรมให้ความสำคัญเมื่อซื้อวัตถุดิบสำหรับห้องครัว โปรดทำเครื่องหมายของถูกข้างหัวข้อที่ท่านให้ความสำคัญ)

- a) Organic produce purchased only Yes No
 (ท่านเลือกซื้อเฉพาะผลิตภัณฑ์ธรรมชาติเท่านั้น)
- b) Reduction of packaging associated with purchased goods Yes No
 (การลดปริมาณของ, ฟิล์ม และบรรจุภัณฑ์ที่เกิดจากการซื้อสินค้า)
- c) Packaging is returned to suppliers Yes No
 (โรงแรมได้ตกลงกับผู้จำหน่ายให้ส่งคืนบรรจุภัณฑ์กลับไปยัง)
- d) Other? (อื่นๆ).....

34. Are individually packaged goods used in the restaurants and bars?

(ท่านใช้ของห่อหุ้มตัวสำหรับร้านอาหาร หรือบาร์บนโรงแรมของคุณหรือไม่)

Yes: No

Please indicate what types;
 (โปรดระบุประเภท)

- a) sugar packages (น้ำตาลห่อหุ้ม)
- b) milk (นมบรรจุห่อหุ้ม)
- c) condiment containers (เครื่องปรุงบรรจุห่อหุ้ม)
- d) disposable cups (ถ้วยกระดาษใช้แล้วทิ้ง)
- e) others (อื่นๆ).....

35. Do you have any other comments about the environmental practices of the kitchen and restaurant areas in this hotel?

(ท่านมีข้อแนะนำหรือความคิดเห็นอื่นเกี่ยวกับของอาหารหรือบาร์บนโรงแรมของคุณหรือไม่ กรุณาระบุวิธีการรักษาที่แตกต่าง)

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SECTION FIVE: GENERAL (ข้อมูลโดยรวมเกี่ยวกับโรงแรม)

36. What is the star classification of your hotel?
(โรงแรมของท่านถูกจัดอยู่ในระดับใด)
- | | | | |
|-----------------|--------------------------|--------------------|--------------------------|
| 5 star (ห้าดาว) | <input type="checkbox"/> | 2 star (สองดาว) | <input type="checkbox"/> |
| 4 star (สี่ดาว) | <input type="checkbox"/> | 1 star (หนึ่งดาว) | <input type="checkbox"/> |
| 3 star (สามดาว) | <input type="checkbox"/> | Others (อื่น)..... | |

37. How many rooms does your hotel have?
(โรงแรมของท่านมีจำนวนห้องพักทั้งหมดกี่ห้อง)
- | | | | |
|---------|--------------------------|---------|--------------------------|
| 250+ | <input type="checkbox"/> | 100-149 | <input type="checkbox"/> |
| 200-249 | <input type="checkbox"/> | 50-99 | <input type="checkbox"/> |
| 150-199 | <input type="checkbox"/> | 0-49 | <input type="checkbox"/> |

38. Please indicate the ownership pattern which best describes your hotel.
(โปรดระบุแบบการดำเนินงานในโรงแรมที่ท่านเลือกตามลักษณะการดำเนินงานของโรงแรมของท่าน)
- a) Chain / Owner Operator
(การจัดการในรูปแบบที่เจ้าของโรงแรมเป็นผู้บริหาร)
 - b) Chain / Management Contract
(การจัดการในรูปแบบที่บริษัทที่รับจัดการโรงแรมเป็นผู้บริหาร)
 - c) Independent / Owner Operator
(การจัดการแบบอิสระ โดยเจ้าของเป็นผู้บริหาร)
 - e) Independent / Management Contract
(การจัดการแบบอิสระ โดยบริษัทที่รับจัดการโรงแรมเป็นผู้บริหาร)
 - f) Franchising
(การจัดการในรูปแบบแฟรนไชส์)

39. Does the company have an environmental policy? Yes No
(โรงแรมของท่านมีนโยบายที่เกี่ยวกับทรัพยากรธรรมชาติและสิ่งแวดล้อมหรือไม่)
- If Yes, what is it?
(หากมี โปรดระบุโดยสังเขป)
-
-
-
-

40. Does the company encourage suggestions from employees and guests on environmental management?

(ไม่ว่าพนักงานได้ทำข้อเสนอแนะหรือไม่ หรือได้รับการจัดการด้านสิ่งแวดล้อมด้วยหรือไม่ และแบบอื่น ๆ ใดก็ตาม)

Yes No

41. What other suggestions have been implemented by the hotel to reduce its environmental impact?

(ท่านมีข้อเสนอแนะต่อโรงแรมอย่างไรบ้าง เพื่อไม่ให้โรงแรมได้ดำเนินการ เพื่อลดผลกระทบต่อสิ่งแวดล้อมของโรงแรมที่มีต่อสังคม)

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42. Does the hotel consider environmental protection an important public issue?

(ไม่ว่าพนักงานได้สังเกตเห็นปัญหาด้านสิ่งแวดล้อมที่ส่งผลกระทบต่อสังคมหรือไม่)

Yes No

43. Would it be advantageous for the hotel to become more environmentally responsible?

(ท่านคิดว่า โรงแรมได้ประโยชน์จากการดำเนินการรับผิดชอบต่อสิ่งแวดล้อมหรือไม่)

Yes No

44. Would the hotel be willing to spend more initially to buy environmentally approved appliances (ie: washing machines or photocopiers), if the overall long-term savings were better than for those appliances that are cheaper?

(ในกรณีที่โรงแรมสามารถประหยัดค่าใช้จ่ายในระยะยาวจากการใช้ผลิตภัณฑ์ที่ผ่านการอนุมัติจากสิ่งแวดล้อมได้มากกว่าของที่มีราคาถูกกว่าหรือไม่ หากการประหยัดในระยะยาวจะดีกว่าสำหรับเครื่องใช้เหล่านั้นหรือไม่)

Yes No

45. Are there any other comments you would care to make regarding this hotel's environmental practices?

(ท่านมีข้อคิดเห็นอื่น ๆ ใด ๆ เกี่ยวกับแนวปฏิบัติด้านสิ่งแวดล้อมของโรงแรมในกรณีศึกษาหรือไม่)

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.....

YOU HAVE NOW COMPLETED THIS QUESTIONNAIRE

Thank you for your participation. Your contribution is greatly appreciated.

APPENDIX B
LETTER TO MANAGER

Rajabhat Institute Phuket
21/39 Theprasattre Road
A. Muang Phuket 83000

15th September 2001

To The General Manager,

I am a student at Edith Cowan University, Australia and I am currently completing research for my Masters of Business in Hospitality Management. My research topic is "How Green is Your Hotel? An Examination of Environmentally Friendly Practices of The Phuket Hotel Industry", which aims to ascertain the level of environmental awareness and the application of environmentally friendly practices within the Phuket hotel industry. In order to complete my research, I would appreciate it if you could take the time to complete the enclosed questionnaire, which is designed to discover how you feel about the environmental practices of the hotels in Phuket and in particular your hotel property. If you could have it returned to me by the 15th October 2001, however, I would be extremely grateful.

Please be assured that the results from this research are highly confidential and that your anonymity is assured throughout.

I would like to thank you in anticipation of your help. If you have any questions do not hesitate to contact me at the above address, or via the e-mail at ohmnuu@hotmail.com. Or you can contact my supervisor, Dr. Martin O'Neill at 001-61-08-94005472, or e-mail him at m.o.neill@ecu.edu.au.

Your Sincerely

Mr. Aungkan Thongkao

15 กันยายน 2544

เรื่อง ขอความร่วมมือในการทำวิจัย

เรียน ผู้จัดการโรงแรม

เนื่องด้วยข้าพเจ้า นายอัครเดช ทองเจิว กำลังศึกษารวีกะ "การประเมิน วัฏจักรปฏิบัติที่เอื้อต่อการรักษาสถานที่ทางสีเขียวของอุตสาหกรรมโรงแรมในจังหวัด ภูเก็ต" (How Green is Your Hotel? An Examination of Environmentally Friendly Practices of the Phuket Hotel Industry) การศึกษาระดับปริญญาโท สาขาการจัดการคุณภาพ (Master of Business Administration) สาขาการจัดการอุตสาหกรรม ตามนวิชา (Hospitality Management) ณ มหาวิทยาลัยเอ็ดดิส โคนวานท์ (Edith Conwan University) ประเทศออสเตรเลีย

การศึกษาดังกล่าวข้างต้น มีความสำคัญอย่างยิ่งที่จะได้รู้ความอนุเคราะห์จากท่าน ในการตอบแบบสอบถามความพึงพอใจความเป็นจริงในปัจจุบัน และความคิดเห็นของท่าน ซึ่งรายละเอียดที่ปรากฏโดยแนบส่งตาม

การตอบแบบสอบถามของท่านในครั้งนี้ จะไม่ก่อให้เกิดผลเสียแก่ท่านแต่ประการใด แต่จะเป็นประโยชน์ต่อการพัฒนาอุตสาหกรรมท่องเที่ยวและทราเวลบริการ ซึ่งเป็นประโยชน์ต่อการพัฒนาคุณภาพของสิ่งแวดล้อมในจังหวัดภูเก็ต

จึงได้ขอความร่วมมือจากท่านให้ตอบแบบสอบถามนี้ตามความเป็นจริงตามความเห็นและความรู้สึกของท่านให้มากที่สุด และขอขอบพระคุณเป็นอย่างสูงที่ได้ให้ความร่วมมือตอบแบบสอบถามมา ณ โอกาสนี้

ขอแสดงความนับถือ

(นายอัครเดช ทองเจิว)

APPENDIX C
REMINDER LETTER

Rajabhat Institute Phuket
21/39 ThepkrasattreRoad
Muang Phuket 83000

10th October 2001

To The General Manager,

Three weeks ago you received a questionnaire from me in relation to research that I am conducting in the area of the level of environmental awareness and the application of environmentally friendly practices within the Phuket hotel industry. I am writing to remind you that the deadline to have the questionnaire returned to me is approaching quickly (15th October 2001). If you have already filled out the questionnaire, please disregard this letter. If you haven't as yet found the time, however, I would be extremely grateful if you could take a few minutes out of your busy schedule to complete the questionnaire and return it in the reply paid envelop provided.

Once again, please be assured that the results of the research are totally confidential and your anonymity is guaranteed.

I again thank-you in anticipation of your assistance. If you have any questions, however, please feel free to contact me at the above address, or via the e-mail at ohmmut@hotmail.com. Or you can contact my supervisor Dr. Martin O'Neill directly at 001-61-08-94005472, or his e-mail at m.o_neill@ccu.edu.au.

Your Sincerely

Mr. Aungkan Thongkao

APPENDIX D
INTERVIEW SCHEDULE

INTERVIEW SCHEDULE

Good (morning, afternoon, evening), Mr./Mrs.....

My name is Aungkan Thongkao, I am a Postgraduate Student and currently I am conducting a hotel survey on behalf of the School of Marketing Tourism and Leisure at Edith Cowan University, Western Australia. First of all, I would like to thank you so much that you could take a few minutes out of your busy schedule to join my interviewing process. Your opinion and the information provided will be used to assist in both the study research and the understanding of what are the current standards of environmentally friendly practice in the Phuket hotel industry.

Your name is required so that the research can be validated. However, the research results will be published without the names of respondents and no respondent will be able to be identified by any person beside myself. The information collected will be kept confidential. By now, let me start from the first question.

1. What is your opinion on the environmental situation in Phuket, especially in the popular tourist attraction like Patong Beach?

คุณมีความคิดเห็นอย่างไรเกี่ยวกับสถานการณ์ด้านสิ่งแวดล้อมในจังหวัดภูเก็ตในปัจจุบัน และโดยเฉพาะอย่างยิ่งในแหล่งท่องเที่ยวที่เป็นที่สนใจของนักท่องเที่ยว

2. Have you ever heard about the green hotel or environmentally friendly hotel? If so, what is your viewpoint on green hotel? What is it exactly mean for you?

คุณเคยได้ยินคำว่า โรงแรมสีเขียว หรือไม่... ถ้าหากว่าพอ คุณมีประสบการณ์อย่างไรต่อโรงแรมสีเขียว และโดยส่วนตัวแล้ว คุณเห็นว่าโรงแรมสีเขียวมีความสำคัญมากน้อยเพียงใด

3. How do you feel about operating hotels that are in harmony with the environment?

คุณรู้สึกอย่างไรต่อการบริหารโรงแรมในทิศทางที่สอดคล้องกับธรรมชาติสิ่งแวดล้อมหรือการประหยัดพลังงาน

4. In terms of the driving force, do you think that the hotel industry will increasingly be pressured by government regulation to take action on environmental issues?

คุณคิดหรือไม่ว่า การที่รัฐออกกฎหมายหรือมาตรการต่างๆ ด้านสิ่งแวดล้อมของมาฟิจี จะส่งผลให้บรรดาภาคเอกชนที่จะสร้างและกวดขันให้โรงแรมต้องเป็นมิตรต่อ สิ่งแวดล้อมมากน้อยเพียงใด

5. Do you agree that hotels will increasingly be pressured by society in general to take action on environmental issues?

ท่านเห็นด้วยหรือไม่ว่า ทัศนคติสังคมจะสร้างแรงกดดันให้กับโรงแรมในการดำเนินการ การที่อาจมีประชาชนที่เห็นด้วยมากน้อยเพียงใด

6. Do you believed that operating hotel in line with the protecting the environment would be the advantage for the hotel?

ท่านเชื่อหรือไม่ว่าการบริหารโรงแรมให้เป็นไปตามทิศทางที่สอดคล้องกับกระบวนการที่เป็นมิตรต่อสิ่งแวดล้อม จะส่งผลให้ผลผลิตหรือข้อได้เปรียบกับตัวโรงแรมเอง

7. What is your attitudes regarding taking action on environmental issues enhances a property's quality and service?

คุณมีความคิดเห็นอย่างไรต่อการดำเนินการด้านสิ่งแวดล้อมที่เอื้อต่อการรักษาภาพลักษณ์สิ่งแวดล้อมของโรงแรม
จะมีส่วนต่อต่อระดับคุณภาพและการบริการของตัวโรงแรมเอง

8. Do you agree taking action on environmental issues contributes to a hotel's brand image and competitive market position?

คุณเห็นด้วยหรือไม่ว่าการปฏิบัติที่เอื้อต่อการรักษาภาพลักษณ์สิ่งแวดล้อมของโรงแรม จะมีส่วนช่วยในการสร้างภาพลักษณ์และ
การวางตำแหน่งการแข่งขันทหารการตลาด

9. Could your hotel be recognised as one of a green hotel?

คุณคิดว่าโรงแรมของคุณ สามารถจะถูกจัดให้เป็นโรงแรมสีเขียวได้หรือไม่

10. In case you are going to put your hotel as a green hotel, could you tell me what are the actual motivations behind environmentally friendly practice? Is it because of brand image, competitive marketing, operational advantage, financial advantage or government regulation.

ในกรณีที่คุณคิดจะยกระดับโรงแรมของคุณ ให้เป็นโรงแรมที่เขียวอย่างแท้จริง เปรียบเทียบจริงทุกตัวคุณตามเหตุผลใด
ใหม่กว่าอะไรคือแรงจูงใจที่ทำให้คุณคิดจะยกระดับโรงแรมให้เป็นอย่างนั้น

11. Does your hotel have any environmental plan or policy? Could you tell me what it is?

โรงแรมของคุณมีแผนงานหรือนโยบายเกี่ยวกับสิ่งแวดล้อมหรือไม่ คุณอาจอธิบาย ให้ฟังกว่าๆได้หรือไม่

12. What strategies does your hotel have to maintain a clean natural environment?

โรงแรมของคุณมีวิธีการอย่างไรในการรักษาความสะอาดของสิ่งแวดล้อมในบริเวณโรงแรม

13. What strategies does your hotel have to dispose of rubbish and waste?

โรงแรมของคุณมีวิธีการอย่างไรในการกำจัดขยะและสิ่งปฏิกูล อย่างเหมาะสมโดยการที่หลีกเลี่ยงนำไปทิ้งเป็นอาหารหมู หรือ
ทำปุ๋ย (a water fertilizer) หรือไม่

- Based on A3R approach
- Reduction should be the primary focus of the 3R regime
- Reuse and
- Recycling
- Providing dispensers for shampoo soaps tea, coffee, sugar rather than supplying individually packaged portions.
- Eliminating the purchase of disposable products such Styrofoam cups or cleaning goods.
- Do not use paper, plastic ware in the hotel restaurant outlets and employee dining room.
- Using reusable plastic, glassware, and silverware
- In guest bathroom, install dispensers that can be refilled.
- Extend product life.
- Separating trash into special bins.

14. What strategies does your hotel have to preserve water consumption?

โรงแรมของเรามีวิธีการอย่างไรในการอนุรักษ์น้ำใช้ประหยัด

- Using low-flow showerheads and aerosols.
- Using dual flush toilets.
- Not washing towels and sheets automatically every dry.
- A cheaper option might be placing bricks in the cistern of guest bathrooms.
- Installation of water-conserving devices such as faucet aerators, toilet flow restructures, and showers has decreased the hotel's water usage.

15. What strategies does your hotel have to limit energy consumption?

โรงแรมของเรามีวิธีใดบ้างในการประหยัดพลังงาน

- Educate staff and guests to turn off appliances.
- Normal incandescent bulbs should be changed to low energy or fluorescent bulbs.
- Reduce the temperature of air conditioner.
- Using Solar Cell instead of hot water machine.
- Laundry washing should be operated at 60C rather than 96C.
- Using motion sensors, which automatically turn off lights when a room is empty.

16. Are there any other comments you would care to make regarding the hotel's environmental practices or supporting the sustainable tourism?

คุณมีข้อเสนอแนะเพิ่มเติมอย่างไรบ้าง ต่อแนวทางปฏิบัติของโรงแรมสนับสนุนการท่องเที่ยวอย่างยั่งยืน ว่าเป็นอุปสรรคหรือข้อกีดกัน หรือ การส่งเสริมการท่องเที่ยวยั่งยืน

OK, Mr./Mrs. ... That all of the questions I would like to ask you today. I am very appreciate for your cooperation and participation. Thank you very much.