

IMPERIAL COLLEGE OF SCIENCE, TECHNOLOGY AND MEDICINE
Faculty of Life Sciences
(University of London)

Department of Environmental Science and Technology

**Development Policy for Langkawi:
The Environmental and Economic Implications of Encouraging Tourism**

By

Caroline Langley

**A report submitted in the partial fulfilment of the requirement for
The MSc and/or DIC**

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DECLARATION OF OWN WORK

I declare that the thesis ‘Development Policy for Langkawi: the Environmental and Economic Implications of Encouraging Tourism’ is entirely my own work and that where any work could be constructed as the work of others, it is fully cited and referenced, and/or with appropriate acknowledgement given.

Signature:

Name of student: CAROLINE LANGLEY

Name of supervisor: DR. E.J. MILNER-GULLAND

DEDICATION

To my parents for realising that Langkawi was a special place, their intuition and foresight in knowing that I would fall in love with the island, and, for bringing me with them on their return visits. To Irshad, for inspiring me with your ‘interpretive guiding’ on those holidays – may all your dreams for the Langkawi Nature Society come true; To the ‘three musketeers,’ Irshad, Jürgen and Olly, for instinctively practising ecotourism in the early years and to Dave for insisting on excellent sustainable hotel management, who are all now encouraging others to do it better, through the Langkawi Nature Society, Nature Guide Langkawi, the welcoming ‘Beachview Backpackers’ and the Asia-Pacific Ecotourism Conference 2003. To ‘Mummie-Malay’ and my ‘adopted family’, for showing me the exceptional warmth and generosity of Malay ways, and giving me an unforgettable experience of another culture.

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ABSTRACT

The Langkawi archipelago has been promoted since the late 1980s as a major tourism destination by the Malaysian government. Langkawi has consequently been exposed to tremendous physical development to provide improved infrastructure and facilities. This development has put a great deal of stress on the very environment that tourists wish to see, potentially compromising the viability of Langkawi's standing as a tourist destination. The information was acquired from 51 hotel and guesthouse surveys, 250 tourist questionnaires and about 25 informal interviews, all conducted between 14th May and 20th July, 2002.

The environmental impact of hotels and guesthouses was investigated through the survey. The results suggest improving environmental management practices are essential for controlling tourism's consumption of utilities and the growing waste problem. The questionnaire establishes why tourists are attracted to the island. The sample of 250 tourists, generally chose Langkawi for its natural attributes: beaches and sea, marine park (islands and reefs), nature (rainforests and mangroves), and experience of another culture. Results were also broken down by key categories. Litter removal was a key recommendation as many guests complained about rubbish on the beaches and at natural attractions.

Ecotourism can be offered if zones of Langkawi remain unspoiled. To gain international credibility ecotourism must genuinely be '*responsible travel to natural areas that conserves the environment and sustain the well being of the local people*' (UNEP, 2002). There are positive opportunities for Langkawi's future ecotourism development. Eco-certification of tours would capitalise on the fact that the majority of the hotels and guesthouses are interested in promoting tours that are less environmentally damaging. The hotel survey uncovers the ownership of the hotels and guesthouses and the number of indigenous staff. Guesthouses are mostly owned by the indigenous population, so sustaining these, provides opportunities for local participation in tourism. The tourist's spending is also followed. This shows that although luxury hotel guests spend most overall, mid range hotel guests spend most in the local economy.

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I. INTRODUCTION

There is something oddly paradoxical about the link between tourism and development in South-East Asia. These countries in their efforts to attract the tourist dollar, often prioritise the expansion of tourism infrastructure and facilities ahead of the pressing needs of their own population. Yet a significant proportion of the ‘escapist’ tourist market has tended to steer away from destinations that display the typical traits of development (urbanisation, industrialisation and modernisation) (Parnwell, 2001).

The main island of Langkawi is a case study of tourism in this region. The Langkawi archipelago consists of approximately 99 islands, covering 204 square miles situated near the northwest coast of peninsular Malaysia (see fig.I.I). A detailed map of Langkawi, fig.I.II. is on page 2.



Fig.I.I. The location of Langkawi (Anon, 2002)

The thesis will first explore the tourism literature and then discuss the case study region, starting from South-East Asia and Malaysia but focusing on Langkawi. The fieldwork data collected using the research methods described, allows systematic analysis of the environmental and economic implications of tourism for Langkawi. Based on the research, the final section makes recommendations for policymakers and non-governmental organisations (NGOs) in the region for future development policies.



Fig.I.II. A detailed map of Langkawi (Anon, 2002)

I.I. AIMS:

- To quantify some the environmental and economic effects of tourism in Langkawi.
- To make recommendations that could be useful for policymakers and NGOs.

I.II. OBJECTIVES:

- To establish why different groups of tourists are choosing Langkawi and use this information to ascertain whether they come to the island for similar reasons.
- To establish what tourists enjoy about Langkawi once they are on the island and compare this with the reasons why they chose it for their destination.
- To ascertain the percentage of spending that goes directly to the local economy from tourists staying in different classes of accommodation.
- To assess the impact that the hotels and guesthouses are having on the environment by the collection of data from these establishments.
- To assess the level of environmental management at the hotels and guesthouses.
- To compare the ranking of natural ecotourism attributes with the other factors, for both the tourist's ranking of their reasons for choosing and enjoying the destination.
- To establish what level of demand there is demand for ecotourism among current visitors.

I.III. RATIONALE FOR RESEARCH:

Langkawi has haunting natural attributes, virgin tropical rainforest, mangrove wetlands, caves, many stunning beaches and access to the best coral reefs on the west coast of peninsular Malaysia. The tourist can experience nature at its pristine best. Yet there are places on the same small island where this pristine best has disappeared and the frontiers of development seem dramatic and alarming (see fig.I.II).



Fig.I.III. Development project near Pantai Kok

Langkawi is at an interesting stage of development. It has much to gain or lose by the policies put in place over the next few years. It is both small enough to investigate comprehensively yet large enough to possess a government body that makes island specific development policies. These two attributes mean this research will reach local policymakers and maybe even make a difference.

Tourism is the largest industry in the world. It is unique in moving people around the globe, creating with this movement economic, environmental and social effects. These can be both positive and negative. International political declarations push for sustainable tourism development to accentuate the positive and curtail the negative effects. At an individual level most of us participate in tourism. This gives a personal opportunity to use our market power to positively influence the development of our destination.

II. LITERATURE REVIEW

The Literature Review is made up of four parts that together analyse the tourism industry in the context of its environmental and economic implications. First is a review of tourism as an industry, then the review focuses on the economics of tourism before moving onto the subject of sustainable tourism. The final section analyses the specific subset of sustainable tourism, ecotourism. Throughout the review where studies are used to illustrate arguments they are, whenever possible, taken from South-East Asia to increase the relevance to the fieldwork and analysis.

II.I. TOURISM

Fig.II.I: International tourist arrivals
– World (WTO, 2002a)



The World Tourism Association (WTO) estimates international tourist arrivals amounted to 693 million in 2001 see fig.II.I. The cumulative environmental and economic effect that tourism has on the world by virtue of its size is large and set to increase as WTO's Tourism 2020 Vision forecasts that international arrivals are expected to reach over 1.56 billion by the year 2020 (WTO, 2002a). These WTO figures are only

international tourist arrivals estimates and as an ODI paper reminds us, in addition to these travellers there are also domestic tourists (Ashley et al., 2000).

II.I.I. Defining a tourist:

Common elements to definitions of a tourist are distance, residence, time and purpose but different countries record different people as tourists by adopting slightly different

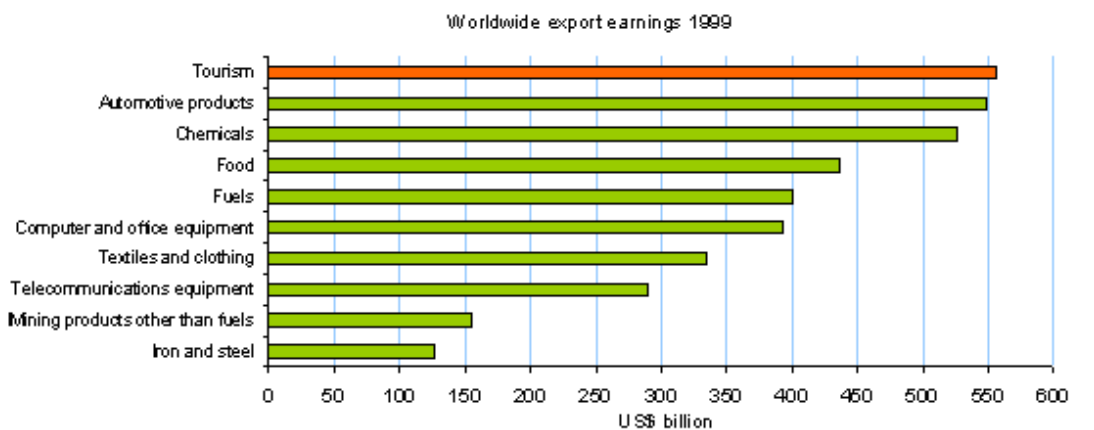
definitions (UFL, 2002). When reading statistics on tourist numbers in the literature it is critical to pay close attention to the exact definition of what is being estimated.

The basic WTO-definition of a tourist is ‘a person travelling to and staying in places outside their usual environment for not more than one consecutive year for leisure, business, and other purposes’ (cited in Rafn, 1998, Garcia 2001 and WTO 2002d). Debate then ensues in the literature about the minimum time requirement, generally concluding that a tourist needs to spend at least one day (per UN) or at least 24 hours (per the WTO) in a destination (UN and WTO both cited in UFL, 2002). The problem of classifying people who do not spend a night in the destination, (for example passengers on a cruise stopping over in a port or people on a day trip), is overcome by introducing the term visitor. Visitors are broken down into two separate groups: overnight visitors and same-day visitors (Garcia, 2001).

II.II. ECONOMICS OF TOURISM

In 1999, international tourism and international fare receipts (receipts related to passenger transport of residents of other countries) accounted for roughly 8 per cent of total export earnings on goods and services worldwide. Total international tourism receipts, including those generated by international fares, amounted to an estimated US\$ 555 billion, surpassing all other international trade categories (see Fig II.II below). In other words tourism was the largest global industry.

Fig.II.II Worldwide export earnings 1999



Source: World Tourism Organization, International Monetary Fund

After the September 11th (2001) terrorist attack on the U.S., tourism slipped from the number one place. Spending by international tourists was estimated at only US\$463 billion in 2001 (WTO, 2002a). These figures are based on foreign exchange receipts. ODI argue that these do not accurately reflect the economic contribution of tourism. In addition to the 'core' services of accommodation and transport, the tourism-related economy also involves food and drinks, supplies to hotels, local transport and attractions, guiding, handicrafts and souvenirs (Ashley et al., 2000). If WTO tourism figures miss all these elements as well as excluding domestic tourists' spending, the extended industry will be even larger and is quite probably still the largest industry even after September 11th.

According to one study tourism was also meant to be the world's largest employer in 2000, generating, directly and indirectly, nearly 200 million jobs or some 10% of the jobs globally (Honey & Rome, 2000, cited in TIES, 2000 p.1).

Whichever figures are used the significance of this industry in global terms is hard to dispute.

II.II.I. Markets segments within tourism:

There are two polemic stances on the value of the different market segments for the economy of the host country. The development studies literature tends to take the view that mass tourism, luxury tourism, all-inclusives and cruises create fewer economic linkages and are worse for the host countries' development especially in the context of alleviating poverty. For example luxury tourism is said to lead to a country's dependence on imported products, foreign investment, and expatriate skills, resulting in repatriation of resultant profits (Baskin 1995 cited in Scheyvens 2002) and financial benefits are thought to only rarely 'trickle down' to people at grassroots level (Scheyvens, 2002). A term pro-poor tourism (PPT) has been adopted whose advocates write of the potential of the budget and independent tourists, ecotourists and domestic and regional tourists segments, as these have greater interaction with the local economy (WTO, 2002d, Ashley et al., 2000). These interactions build the skills of the local population, promote self-reliance, and develop the confidence of community members

in dealing with outsiders: all signs of empowerment (Scheyvens, 2002). Studies back these ideas up for example in Yogyakarta (Indonesia) it has been shown that domestic and other Asian tourists tend to buy more from local vendors than Western tourists (Shah, 2000 cited in Ashley et al., 2000). Involving the informal sector is considered vital for poverty alleviation and development. Case studies such as Bai Chay, Ha Long Bay in Vietnam show that although only a dozen local families there run private hotels, local involvement in tourism spreads to an estimated 70–80% of the population. Apart from those with jobs in the hotels and restaurants, local women share the running of six noodle stalls, many women and children are ambulant vendors, and anyone with a boat or motorbike hires them out to tourists (Ashley et al., 2000).

The traditional economists and developing country planners take the opposite view, talking less about poverty alleviation and more about raising gross national product (GNP), foreign exchange earnings and employment. Performance is assessed by international visitor arrivals rather than net national income from the industry, import requirements and the distribution of the benefits. The mass tourists, luxury tourists, all-inclusive tourists and cruise passengers spend more per day and the assertion is implied that local communities will benefit through trickledown (WTO, 2002d). This literature also points to the weaknesses of some of the alternatives stressing that: backpackers bring cultural problems from their inappropriate behaviour and disregard of social norms (Noronha, cited in Scheyvens, 2002), budget travellers and ecotourists are responsible for opening up fragile new destinations to tourism (Hunter, 1995), and domestic tourists do not bring in foreign exchange and tend to stay in the destination for shorter periods (WTO, 2002d). Much credence has been given to the stereotypical image of the backpacker as an unkempt, immoral, drug-taking individual. In Southeast Asia, the interest paid by most government planners to the backpacker sector is at best tacitly ignored, or at worst actively discouraged in official tourism planning (Hampton 1998, cited in Scheyvens, 2002). In Goa, the Director of Tourism believes that “*Luxury tourism was the way forward. Hippies and backpackers do not bring in enough money*” (Wilson 1997 cited in Scheyvens, 2002).

II.II.II. Macroeconomics: Multipliers and Leakage:

In the model of a full economy there are four sectors: households, firms, the government and international trade. Disrupting the circular flow of money are leakages and injections. Leakages include savings, taxation and imports. Injections include investment, government spending and exports (AFP, 1997).

II.II.II.I. Multipliers

Policy makers trying to adjust the equilibrium level of national income (especially if they are demand-sided Keynesian economists) can adjust the injections: investment, government spending and exports, to try and achieve this (AFP, 1997). Since the 1997 financial crisis Malaysia has adopted a Keynesian fiscal stimulus programme (Yusof, 2002). If the multiplier was 4 (approximate UK level) then 100 units of investment would create 400 units more on the equilibrium level of national income (AFP, 1997).

The tourism income multiplier effect is a specific multiplier effect that is vital to consider if any tourism industry is to grow in a manner which benefits the local people. The purchase of goods and services by tourists has both primary and secondary economic impacts. There is a **primary direct effect** when the tourist purchases goods and services, a **secondary indirect effect** from the hotel purchasing supplies to service that guest and a **secondary induced effect** from the employees of the hotel and tourism suppliers spend their salaries (McGahey, 1996). These three effects cause a rise in the overall level of economic activity. The most reliable way to calculate the multiplier is using the Keynesian equations supplied in most economics textbooks (AFP, 1997) although attempts have been made to use more simplistic ratios such as direct impact, plus indirect impact, plus induced impact, divided by direct impact, equals to multiplier (Fridgen, 1991 cited in McGahey, 1996).

Different countries have different tourist income multipliers and tend to range from more than 2.0 to just above 0.0. A classic study by Fletcher in 1989 provides estimates of tourist multipliers for 18 countries around the world (cited in McGahey, 1996) and 10 of these are listed below. The selected 10 are with the exception of the United Kingdom (which was included by way of a comparison) developing country islands. Langkawi

falls into this classification so these were considered more relevant for comparison purposes.

United Kingdom	1.73
Jamaica	1.23
Bermuda	1.09
Mauritius	0.96
Antigua	0.88
Bahamas	0.79
Cayman Islands	0.65
Republic of Palau	0.50
Western Samoa	0.39

The developing country islands generally have multipliers of less than 1.0, this means that less of the injection stays in the country than is spent. A multiplier of 0.0 means all the money in goes out.

II.II.II.II. Leakage:

As the figures above illustrate, tourism multipliers are mostly less than 1.0. This is because of leakage. Various factors mean that rather than circulating, the money brought in by tourism leaves the host country again. The most common cause of tourism leakage is **import leakage** which is when the host country imports goods and services required or preferred by international tourists. There are also **export leakages** including travel agency and tour operator commissions (whose businesses are located outside the country), profits paid to foreign owners and absentee landlords, interest paid on foreign loans and advertising abroad (UNEP, 2001). Developed countries with integrated economies able to capitalise, supply and operate their own tourism industry will have little leakage. Conversely smaller developing countries especially islands tend to have much more leakage.

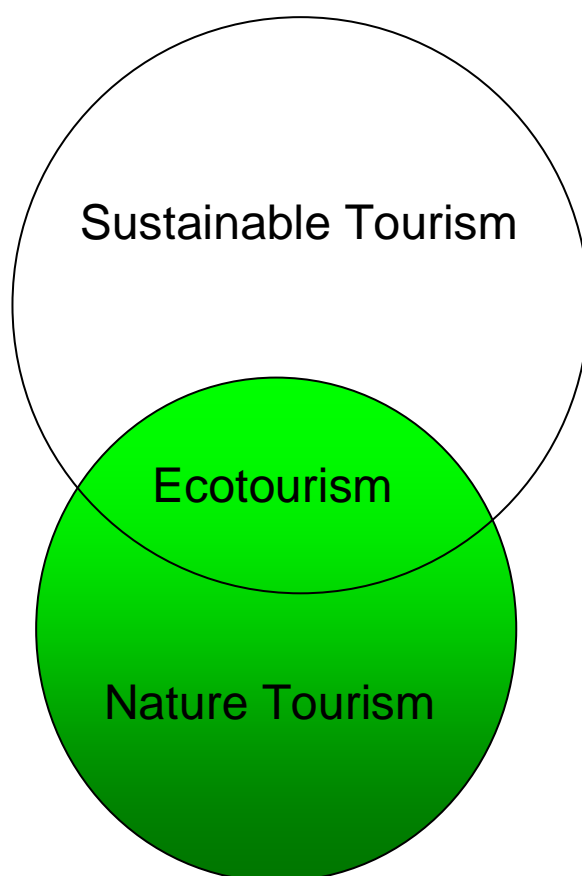
A study of tourism leakage in Thailand estimated that 70% of all money spent by tourists ended up leaving Thailand (via foreign-owned tour operators, airlines, hotels, imported drinks and food, etc). (Thai Institute for Development and Administration, Bangkok, 1990 cited in LA21, 2002) Estimates for other developing countries range from 80% in the Caribbean to 40% in India (LA21, 2002).

The macroeconomic principles discussed are well established in the literature and the only challenge is regarding the fieldwork methods used to calculate spending and leakages. If the policy makers and entrepreneurs in Langkawi and other destinations keep in mind what contributes to the tourism multiplier and what limits tourism leakage this will enhance the economic benefits of tourism for their local people.

II.III. SUSTAINABLE TOURISM DEVELOPMENT

The most established definitions of sustainable tourism and ecotourism are shown in fig. II.III below.

Fig.II.III: Defining Sustainable Tourism Development and Ecotourism

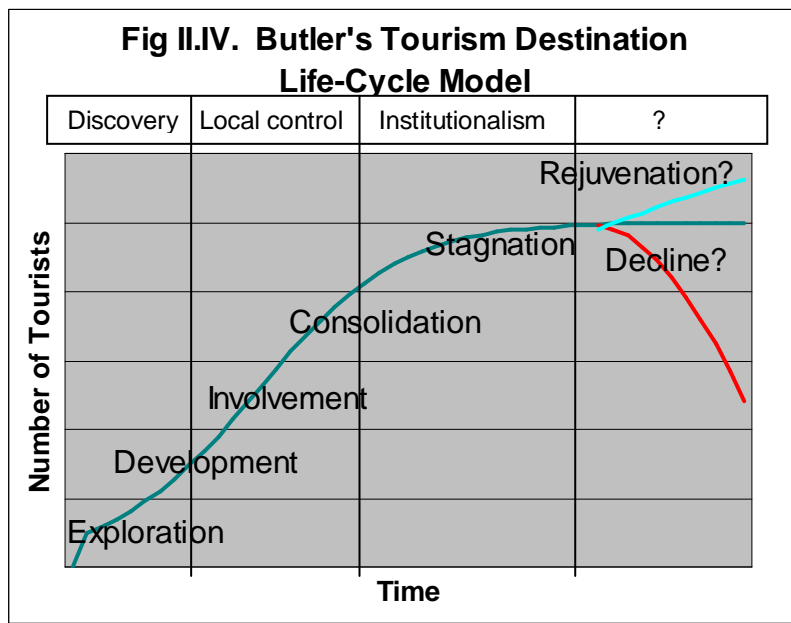


- *“Sustainable tourism development meets the needs of present tourists and host regions while protecting and enhancing opportunities for the future. It is envisaged as leading to management of all resources in such a way that economic, social and aesthetic needs can be fulfilled while maintaining cultural integrity, essential ecological processes, biological diversity and life support systems,”* (WTO, 2002e). In other words it is about low impact tourism, for example, good environmental management by hotels.
- *“Ecotourism is responsible travel to natural areas that conserves the environment and sustains the well being of the local people”* (The International Ecotourism Society, 1991 cited in UNEP, 2002)

This section will look at sustainable tourism but it is considered important to define ecotourism at the same time to avoid any possible misunderstandings.

II.III.I. Carrying capacity:

The term carrying capacity comes from ecology and the study of population growth curves (Green et al., 1991). Butler’s tourism destination life cycle model (1980) infiltrates this concept into the tourism literature by his depiction of tourism as a density-dependent sigmoid growth curve, see fig II.IV below. He uses the term carrying capacity to mean a limit to the amount of tourism that a particular area can support without a decline in quality.



This model is so established that it is now used in national tourism development planning. In Indonesia each province was attributed to one of the phases on Butler’s curve, as part of Indonesian academics’ and government ministries’ tourism planning process for its national ten year tourism development plan (Sofield, 1994). This use is just a variation on the product life cycle, also inspired by ecology and a key consulting tool in the strategic planning of any business portfolio of products or services (AFP, 2000).

Effectively integrating sustainable management and policies into tourism is necessary otherwise the tolerance of the host destination (in terms of physical, psychological, social and economic elements) will be exceeded and its quality will deteriorate. Then

tourists in search of the pristine paradise destination will no longer wish to visit and will instead take their custom (foreign exchange payments) to the next unspoilt destination and start the process again.

The concept of sustainable tourism is the generally the favoured solution of the industry. It utilises the idea that tourism has the potential to protect environments as well as to destroy them.

II.III.II. Global relevance:

The tourism industry's pattern of gradually chewing through pristine destinations means making tourism sustainable can no longer be regarded as a local matter of introducing best-practice at each destination but a global conundrum. The distinctiveness of tourism in global trade is that it 'moves people to the product rather than transporting the product of the people,' (Pera and Mc Laren, 1998 cited in Williams, 2002). Tourism is also linked to other areas of the economy: agriculture, land and labour. It is inextricably intertwined with air transportation, (a US \$414 trillion industry), and communication (Williams, 2002). These many linkages and increasing liberalisation means tourism indisputably requires global governance.

Global problems require global solutions. The increasing global relevance of tourism is illustrated by the fact that tourism was not on the agenda at the Rio World Summit on Sustainable Development (WSSD) in 1992 yet is firmly on the agenda at the Johannesburg WSSD this year (WTO, 2002d). The shift has changed too from the Local Agenda 21 document in 1995 which was all about sustainability (LA21, 2002), to the United Nations Commission on Sustainable Development (CSD) 7th meeting in April 1999, where there was increasing emphasis on the economic and social aspects of development as well as sustainability, and finally to Johannesburg agenda where the shift has moved even more towards poverty reduction (WTO, 2002d).

At CSD7 the concept of a Global Code of Ethics for Tourism was endorsed. An extensive consultative process culminated in a 10 point Global Code that was approved unanimously by the WTO General Assembly meeting in Santiago in October 1999. The code includes nine articles outlining the 'rules of the game' for destinations,

governments, tour operators, developers, travel agents, workers and travellers themselves. The third article is called 'tourism, a factor of sustainable development' and talks of safeguarding the natural environment, saving resources, staggering tourist flows, ensuring constraints are agreed to (especially in sensitive areas) and recognising ecotourism and nature-tourism's importance as long as they respect the carrying capacity of the site (GCET, 1999). The tenth article creates a World Committee on Tourism Ethics made up of representatives of each region of the world and representatives of each group of stakeholders in the tourism sector. It marks the first time that a code of this type will have a mechanism for enforcement.

Now in Johannesburg, the WTO ran an event on tourism and poverty alleviation on the 30th August (2002) where they launched their publication 'Eliminating Poverty through sustainable tourism' (WTO 2002d). In the draft report of the Main Committee* of the World Summit on Sustainable Development (WSSD) there is an entire section for sustainable tourism development quoted in full below:

41. [Agreed] Promote sustainable tourism development, including non-consumptive and eco-tourism, taking into account the spirit of the International Year of Eco-tourism 2002, the United Nations Year for Cultural Heritage in 2002, the World Eco-tourism Summit 2002 and its Quebec Declaration, and the Global Code of Ethics for Tourism as adopted by the World Tourism Organisation in order to increase the benefits from tourism resources for the population in host communities while maintaining the cultural and environmental integrity of the host communities and enhancing the protection of ecologically sensitive areas and natural heritages. Promote sustainable tourism development and capacity-building in order to contribute to the strengthening of rural and local communities. This would include actions at all levels to:

- (a) [Agreed] Enhance international cooperation, foreign direct investment and partnerships with both private and public sectors, at all levels;*
- (b) [Agreed] Develop programmes, including education and training programmes, that encourage people to participate in eco-tourism, enable indigenous and local communities to develop and benefit from eco-tourism, and enhance stakeholder cooperation in tourism development and heritage preservation, in order to improve the protection of the environment, natural resources and cultural heritage;*
- (c) [Agreed] Provide technical assistance to developing countries and countries with economies in transition to support sustainable tourism business development and investment and tourism awareness programmes, to improve domestic tourism, and to stimulate entrepreneurial development;*
- (d) [Agreed] Assist host communities in managing visits to their tourism attractions for their maximum benefit, while ensuring the least negative impacts on and risks for their traditions, culture and environment, with the support of the World Tourism Organization and other relevant organizations;*

(e) [Agreed] Promote the diversification of economic activities, including through the facilitation of access to markets and commercial information, and participation of emerging local enterprises, especially small and medium-sized enterprises (WSSD, 2002).

II.III.III. Indicators:

The first stage towards achieving sustainable tourism is to produce indicators of sustainability that produce a measured output which can be compared. This is a key idea from the logical frameworks approach that is a stalwart of development planning.

Two international institutions that represent the interests of the tourism trade initiated indicator studies in the early 90s: the WTO working group report (International Working Group on Indicators of Sustainable Tourism 1993) and the International Federation of Tour Operators (Hughes, 2001). Butler challenges this indicator movement by saying

“there are no satisfactory indicators of carrying capacity or the ability of environments to sustain tourism. All too often, the first indicator of nonsustainability is the decline of attractiveness perceived through a decline in visitor numbers, or undesired change in the human physical environment of the destination area. In many cases such indications come too late for satisfactory remedial action, even if that had been possible” (Butler 1993 cited in Hughes 2001).

This is a radically opposed observation to the optimism evident in both the above studies although a useful background for this thesis, which later (see section V.II.II) compares the reasons for choosing the destination compared to reasons for enjoying the destination.

There have been some practical tools developed based on indicator principles and 2 of these are discussed below.

The International Hotels Environment Initiative (IHEI), is a programme of the International Business Leaders Forum, was established in 1992 by chief executives of the world's leading hotel groups, aiming to bring about continuous improvement in the environmental performance of the global hotel industry. IHEI in partnership with WWF-UK launched an internet based environmental benchmarking tool in September

2001, designed to help hotels around the world make substantial cost savings, while improving environmental performance (IHEI, 2002).

WWF Footprinting in association with Best Foot Forward calculates the environmental footprint of two European package holidays, and provides access to the software for customers and holiday companies to calculate the footprint of their holidays. The tool provides a value in terms of per capita earthshare which can be used to compare the sustainability of holidays (WWF-UK-2002).

II.III.IV. Certification:

A MORI survey for ABTA in 2000 found that around 80% of package holidaymakers felt that it was important that their holiday did not damage the environment (cited in WWF-UK, 2002). This is a significant amount of the package market and tourism businesses cannot afford to neglect their opinions. There are also cost saving opportunities for these businesses. Certification is advocated in the Draft Report of the Main Committee of the Johannesburg WSSD:

17 (a) [Agreed] Encourage industry to improve social and environmental performance through voluntary initiatives, including environmental management systems, codes of conduct, certification and public reporting on environmental and social issues, taking into account such initiatives as the International Organization for Standardization (ISO) standards and Global Reporting Initiative guidelines on sustainability reporting, bearing in mind principle 11 of the Rio Declaration on Environment and Development;

Three of the most established international certification schemes targeting this demand in the tourism industry have been outlined below.

The broadly applicable ISO (International Standards Organisation) 14001 accreditation standard can be awarded to hotels and tourism businesses. The ISO14000 series corresponds to various aspects of environmental management, systems and audit procedures and ISO14001 refers to the specifications. A certified ISO14001 business does not guarantee a certain level of environmental performance but it does ensure there are stringent environmental management specifications operating. ISO14001 is internationally recognised. In 2000 there were 175 ISO140001 certificates issued to Malaysian companies. Japanese and Thai companies had 3992 and 283 respectively (Grafe-Buckens, 2001).

Green Globe 21 is an organisation which specialises in developing environmental management and awareness for the Travel & Tourism industry and provides practical means through which companies can improve their environmental performance. The Green Globe 21 Standard sets out requirements which meet Agenda 21, ISO 14001 and triple bottom line principles. The requirements are organised into five sections and companies are required to meet all relevant criteria in order to achieve Green Globe 21 Certification. The Green Globe 21 Brand is one of the most widely recognised environmental brands throughout the world (Greenglobe21, 2002).

The Blue Flag is an exclusive eco-label awarded to more than 2800 beaches and marinas in 23 countries across Europe and South Africa in 2002. The Blue Flag Campaign is owned and run by the independent non-profit organisation Foundation for Environmental Education (FEE). The Blue Flag is a symbol of high environmental standards as well as good sanitary and safety facilities at the beach/marina. The Blue Flag Campaign includes environmental education and information for the public, decision makers and tourism operators. The scheme started in Europe but now implementation is beginning in countries and regions outside Europe. South Africa has already implemented the campaign, and the countries in the Caribbean are in the process of implementation (Blueflag, 2002).

II.IV. ECOTOURISM

The definition of ecotourism has been provided on page 11. To clarify, a large tour party run by an international tour company to a natural area would be nature tourism but would not be ecotourism. However a small tour, run by a local business with a local guide, responsibly visiting that same natural area would be ecotourism. An international standard hotel that has good environmental management would be showing some proof of its commitment to sustainable tourism but since the hotel is not natural and probably not locally owned, it is not ecotourism.

There is much literature on ecotourism's potential especially in the PPT (pro-poor tourism) discussions. Criticisms of ecotourism are that: it can only be a niche market and can at best provide a small part of the solution, it is rhetorical cover for new middle

class exploitation (Mowforth and Munt 1998 cited in Hughes, 2001) and that it brings damage to previously untouched environments (Williams, 2002).

II.IV.I. Global relevance:

Francesco Frangialli, secretary-general of the WTO, estimates ecotourism is growing at a rate of “*maybe double, even triple*” that of the rest of the industry (Piore, 2002).

The global relevance can hardly be disputed when this year (2002) is the International Year of Ecotourism (IYE). As part of this the World Ecotourism Summit was held in Quebec in May 2002 (Quebec, 2002) involving 1,100 representatives from more than 130 countries. Countering this UN initiative and cautioning the Summit participants was a campaign called the International Year of *Stopping* Ecotourism. This campaign was born from the concern that UN endorsement of IYE will lead to frenzied ecotourism promotion doing more damage to fragile environments and that exploitation of the trend is leading to devaluation of ecotourism. In the Philippines, Malaysian businessmen are already promoting an “ecotourism casino” (Piore, 2002).

II.IV.II. Regulation and Certification:

The Quebec Declaration came out of this Summit makes 49 recommendations, 19 of them aimed at national, regional and local governments for application to their development policies. Recommendations 4 and 5 are about regulatory and monitoring mechanisms. Recommendation number 7 is about using internationally approved and reviewed guidelines to develop certification schemes, ecolabels and other voluntary initiatives geared towards sustainability in ecotourism, encouraging private operators to join such schemes and promoting their recognition by consumers (Quebec, 2002). To maintain the integrity of ecotourism businesses that claim to be involved in ecotourism should be evaluated and certified if their claims are true.

There is at least academic concern that government regulation of tourism and certification schemes could become illegal due to international trade law as set out in the General Agreement on Trade in Services (GATS). Tourism as a service industry is covered by GATS. If a government wanted to regulate the number of boats using a

river or accessing a coral reef, and they had scheduled tourism under GATS without limitations (or an annex is agreed for all members) then this could be challenged as restricting 'market access.' If they decided that new hotels had to employ or train local staff or buy local produce, this could be challenged as impairing 'national treatment'. Funding voluntary sustainability standards may even be scrutinised for compatibility as GATS is meant to apply to all government measures (Williams, 2002, and Bendall, personal communication 2002). The World Trade Organisation on the other hand rejects the idea that GATS will prevent governments from regulating services as they want, claiming it to be a 'misunderstanding and scare story' (WTO, 2002f).

Nonetheless regulation and certification are becoming more prevalent. Notable examples include:

In Bhutan the immediate objective of maximizing foreign exchange and revenue is guided by the policy of "high value low volume" tourism so as to maximize earnings while maintaining the number of visitors at an acceptable level to minimize the adverse cultural and environmental consequences. To achieve this objective, the Royal Government has set a policy of limiting total number of tourists and is seeking to implement this policy by imposing a relatively high blanket fee for all tourists other than Indians (UNDP, 2002).

Costa Rica's original eco-labelling program, the "Sustainable Tourism Rating" developed for the *New Key to Costa Rica* guidebook from 1990, is among the oldest ecotourism certification programs. It focuses on three areas:

- Environmental variables: environmental impact of the lodge, use of energy and natural resources
- Economic variables: how much money stays in the local community
- Socio-cultural variables: how knowledgeable the owners are about the local culture and how they work to fortify it

(Honey, 1999). (Note: This program is completely separate from Costa Rica's Certification for Sustainable Tourism (CST)).

Nature and Ecotourism Accreditation Program (NEAP) in Australia started in 1997 and by late 2000 the program had certified over 300 products (tours, accommodations and attractions) from over 100 companies throughout Australia, with the majority in Queensland. It represents approximately ten percent of the country's viable nature based tourism operators. NEAP's three-tiered division of certification, which separates ecotourism from sustainable tourism certification, is praised by the International Ecotourism Society (TIES cited in Honey, 1999):

- Nature Tourism: as ecologically sustainable tourism with a primary focus on experiencing natural areas
- Ecotourism: is ecologically sustainable tourism with a primary focus on experiencing natural areas that foster environmental and cultural understanding
- Advanced Ecotourism: is the above, plus a more stringent set of assessment criteria, including an emphasis on environmental interpretation for visitors

NEAP levels do not mention local communities and economic development because the scheme is tailored to Australian realities rather than developing country issues. For Australia the education component is the crux of whether people will become more aware after an ecotourism experience (Crabtree cited in Honey, 1999).

II.IV.III. Value:

Ecotourism's value for sustainable development policy comes from tourist's 'willingness to pay' for the conservation that they increasingly value. This brings this review to the edge of the massive literature on contingent valuation the controversial method for valuing non-use values as part of full cost-benefit analysis (Price, 2000). This concept has increasing relevance for tourism and development planners in developing countries as they need to plan to exploit this willingness to enable conservation of natural environments. Using these areas for ecotourism turns this non-use value into a real economic market value contributing to the countries GNP (Gossling, 1999).

II.IV.IV. Community involvement:

Community involvement in the broader arena of tourism planning may leave interests unarticulated or unobservable (Lukes 1974 cited in Joppe, 1996). Participation usually excludes the weakest members of the community. This is not intentional, it is a function of who is comfortable entering into dialogue with the authorities. Yet the excluded bear most of the costs of poor tourism planning.

Researchers, who have been involved in community participation in the field, caution against treating it as a panacea stating that it is very difficult to do well. It shows up issues of fairness, jealousy and exclusion (regarding matters such as benefit sharing, work division, decision making), skills deficits and the potentially frustrating and time consuming learning process, and difficulties balancing outside partners (NGOs/Businesses/Government) with the community (Sproule, 1996). Yet if the well being of local people is going to be given priority, members of these communities should be involved in planning their own participation in the industry.

Starting stakeholder involvement with ecotourism is a useful entry point into an overall more participative process. Ecotourism is best suited to small scale developments which allow maximum local participation and stakeholdership (Gossling, 1999).

III. BACKGROUND TO THE CASE STUDY REGION

This introduction to the case study islands of Langkawi starts from the region of South-East Asia before taking a detailed look at Malaysian governance and finally focusing on Langkawi. It aims to both: place the case study into the wider political and economic scene, and, show some of the important natural environmental features of the region and islands. It then moves to look at some of the island's ecotourism and sustainability issues. These issues were researched from informal interviews (see Method p50), specific reading and personal observations.

III.I. SOUTH-EAST ASIA

III.I.I. Tourism in South-East Asia as a Growth Industry:

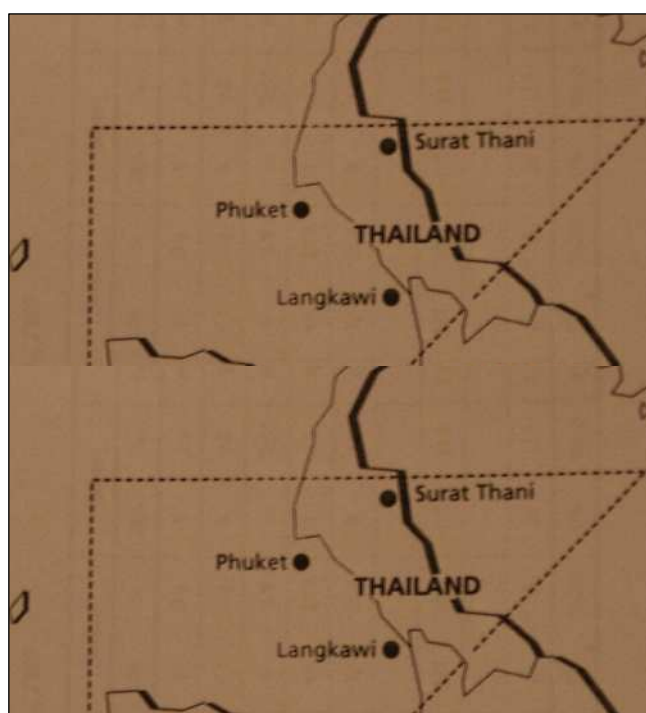
South-East Asia had an estimated 40.1 million international tourist arrivals in 2001 (a global market share of 5.8%) and was one of the few regions to have a positive growth rate of 8.3% (00/01) despite 11th September 2001 (WTO, 2002b). This growth trend of over 5% is forecast to continue with the 'East Asia and the Pacific' region (which includes South-East Asia) being set to overtake 'The Americas' by 2010 to take the position of the second most visited region (Europe is the first). International tourism receipts in South-East Asia are estimated at US\$25.6 (a global market share of 5.5%), this is down 3.2% from 2000 (WTO, 2002c). The continued growth in arrivals but decline in receipts is because in economic tight times consumers react not so much by refraining from travel but by trading down (Klancnik & Peressolova, 2002).

Despite the WTO figures painting a rosy picture, South-East Asia has not had an easy time. The 1997 economic crisis caused widespread currency devaluations which led to international companies buying up failed businesses. This crisis has also led to a loss of confidence in the region, for prior to 1997 it was widely considered a development success story.

III.I.II. Regional co-operation in the tourism industry and Langkawi's role:

Established in 1994 the Indonesia, Malaysia, Thailand Growth Triangle (IMT-GT), is an area for regional economic co-operation among three of the seven members of the ASEAN (Association of Southeast Asian Nations) countries, namely, Indonesia, Malaysia and Thailand.

Fig.III.I. The IMT-GT (Tenku Hadi, 1996)



This growth triangle depicted on fig.III.I comprises northern Sumatra in Indonesia, the four northern western states of Peninsular Malaysia (Perak, Penang, Kedah and Perlis) and Southern Thailand (Tenku Hadi, 1996). It is an ASEAN initiative to narrow the gap in the levels of development and to reduce poverty and socio-economic disparities in the region. One of the areas in which IMT-GT countries cooperate is tourism.

Northern Malaysia has designated Penang and Langkawi as its growth centres in industry and tourism. The private sector largely drives the IMT-GT, while the governments of the three countries encourage investment efforts and joint projects (Allison, 2000).

III.II. MALAYSIAN GOVERNANCE

III.II.I. Top-down plans:

In 1950 the first five-year regional economic plan for Malaysia was introduced. Malaysia secured its independence from Britain on 31st August 1957 although it was not

until 9th September 1963 that the Federation of Malaysia was created. Malaysian politics post-independence has produced a succession of five-year plans. On 16th July 1981 Malaysia's fourth Prime Minister Dr Mahathir Mohamad came to office and having won all the elections since, has remained in power until the present day (Tenku Hadi, 1996). Only now are plans for handing over power being made. Four months after his October 1990 election victory, Mahathir unveiled Vision 2020, a programme to make Malaysia a fully developed country by the year 2020 (Teik, 1995).

Matathir's ideas constitute a relatively coherent political ideology which has been termed 'Mahathirism' by Teik (1995). His book describes the five core components of 'Mahathirism': nationalism, capitalism, Islam, populism and authoritarianism. This authoritarianism has resulted in Malaysia maintaining a top-down system of governance where most key decisions are taken by Matathir himself. To meet Matathir's over arching goal for Malaysia to be a developed country by 2020, the GDP in 2020 would need to be eight times larger than the GDP in 1990 meaning Malaysia's economy needs to grow at an average annual rate of 7% per year (Tiek, 1995). This ambitious top-down aim results in every state setting annual GDP growth targets that contribute to this overall goal.

III.II.II. Kedah State's role in the National Plans:



The 8th Malaysian Plan (2001-2005) highlights that the tourism sector in Malaysia will be developed as an important economic sector to spur the socio-economic development of the country (Kedah, 2001). Tourism is Malaysia's second largest industry after oil. Langkawi is in Kedah state, which together with the state of Perlis, are the poorest on the west coast of the peninsular. These states are shown on fig.III.II. Langkawi's tourism industry is one of Kedah's strongest opportunities for meeting its yearly Vision 2020 GDP targets.

Fig.III.II. Kedah and Perlis (Tripod, 2002)

III.III. LANGKAWI DEVELOPMENT AUTHORITY'S (LADA) ROLE

Mahathir's home state is Kedah and he was posted to Langkawi in the 1950's as a medical officer in the Civil Service (Naidu, 2002). As Prime Minister he initiated the development of the island. Now he takes a personal interest in the progress, allegedly visiting Langkawi once a month.

Mahathir's government has slowly turned Langkawi into the premier tourist destination in the country.

1983: Money was allocated for developing tourism under mid term review of 4th Malaysian Plan 1981-1985

1984: The intention to make Langkawi a major tourist centre was announced

1987: Langkawi was declared a Duty Free island from 1st January 1987

1988: The International Airport was opened

1990: Langkawi Development Authority (LADA) was incorporated by an Act of Parliament on 1st January 1990. Section 4 of the Act stated that the functions of the Authority shall be:

- 1. To promote, stimulate, facilities and undertake economic and social development in Langkawi.*
- 2. To promote and stimulate Langkawi as a destination and duty-free area.*
- 3. To promote, stimulate, facilities and undertake the development of tourism and infrastructure as well as residential, agriculture, industrial and commercial development in Langkawi.*
- 4. To co-ordinate the performance in Langkawi of the activities mentioned in the three previous paragraphs (Act cited in Yong, 1999)*

1992: 'Langkawi Structure Plan 1990-2005' was produced stressing the preservation of the natural environment and landscape. This aims to encourage, control and guide development.

2002: LADA is preparing the next Structure Plan and looking at making an ecotourism strategy. Tourism is now Langkawi's number one industry.

There are two main weaknesses with LADA's governance role:

1. The top-down Vision 2020 goal leaves LADA having to encourage business investment (foreign and Malaysian) for luxury resorts and other large scale tourism projects on Langkawi, in the belief that these will give the biggest boost to their GDP. GDP doesn't measure economic inequalities between citizens or depreciating natural resources and consequently these impacts are more likely to be neglected in the pursuit of the ultimate GDP goal.
2. LADA has the role of guiding development on the island but sometimes finds problems with control. Governance in Malaysia is based on a three-tier structure of Federal, State and Local Government. Additional regional development authorities like LADA are under the supervision of various ministries, LADA is under the Ministry of Finance (Tenku Haadi, 1996). While the structure of the three tiered system appears simple, actual implementation is more complex and usually involves a combination of several governance levels and a myriad of policies, legislation, bylaws and guidelines (MIMA Unpub. cited in Ramli et al., 2002). For example, The Federal Constitution of Malaysia leaves substantial powers over land use and natural resource management to the respective States (Tan, 1998). Kedah State actually owns much of the land in Langkawi and LADA's authority can clash with State's on these matters.

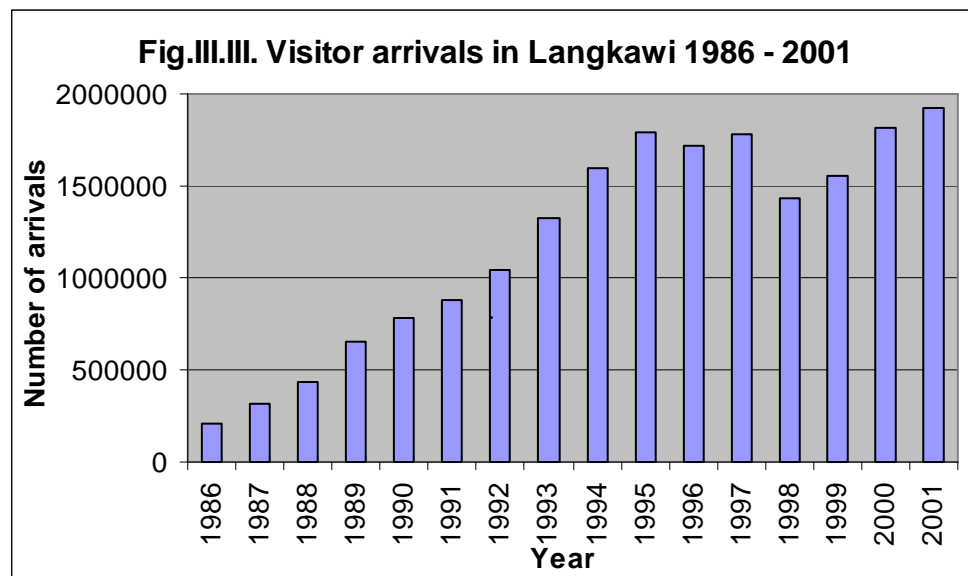
III.III.I. Tourist Numbers:

Section II.I.I of the Literature review explains the difference between a visitor and a tourist, basically the term tourist refers to international visitors staying 24 hours and visitors refers to domestic and international visitors who *may* stay less than 24 hours.

LADA reports arrival numbers but uses these figures to justify the increasing success of tourism. This is misleading as the arrival figures include more than 'visitors'.

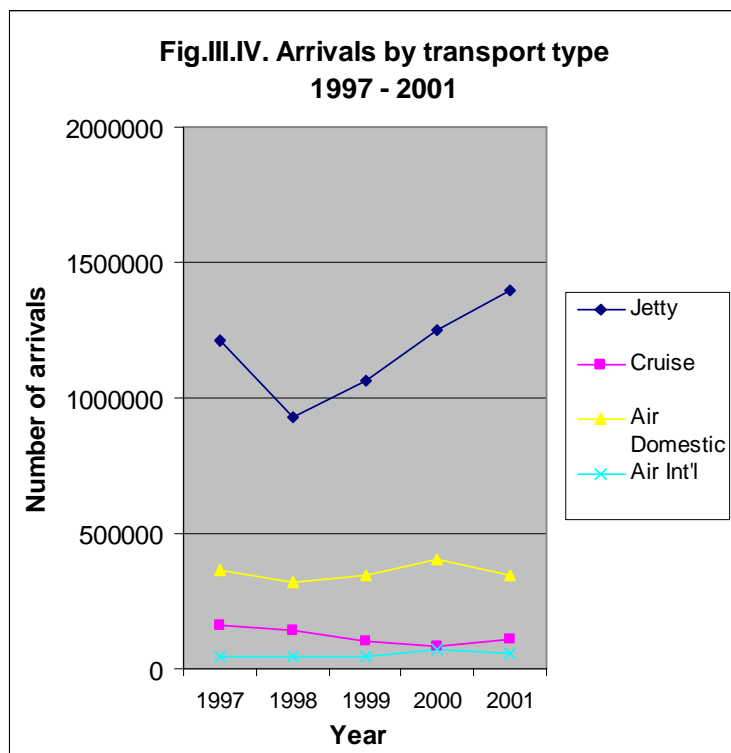
Langkawi is within commutable distance by ferry to Perlis (45 minutes), mainland Kedah (1 hour), Penang (3 hours) and by plane to KL (45 minutes) so observations and discussions suggest there is a very significant movement of local people arriving on the island for purposes unrelated to Langkawi's tourism industry.

Fig.III.III shows the arrival numbers increasing over the last decade.



The pattern approximates a sigmoid growth curve (reminiscent of Butler's curve see Literature Review p12) with steep growth until 1995 and then flattening out. The dip in 1998 and 1999 is probably because of the Asian Financial Crisis.

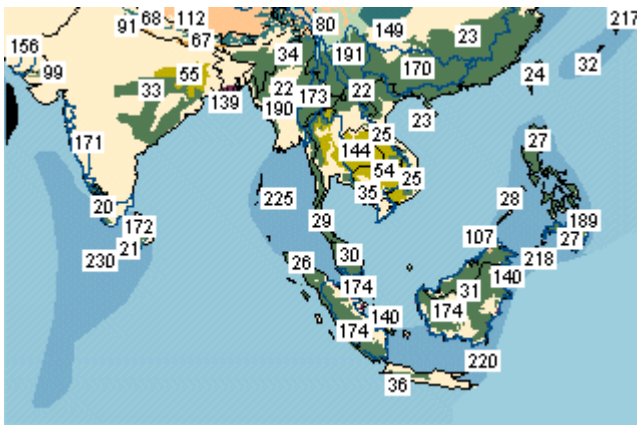
From fig.III.IV below (showing how the arrivals got to Langkawi), it seems that air (international and domestic) and cruise arrivals have remained fairly constant from 1997 to 2001. However, jetty arrivals increased (with the same dip in 1998 and 1999).



Malaysians are more likely to arrive by jetty so this upward pattern may indicate more domestic visitors and/or more commuting and travelling by Langkawi residents. It is less likely to represent an increase in (international) tourists.

LANGKAWI'S ENVIRONMENT:

Fig.III.V. Global 200 sites in Asia (WWF, 2002)



Langkawi falls within a WWF Global 200 site called Marine Ecoregion No.225. 'The Andaman Sea' (belonging to India, Myanmar, Thailand, Malaysia and Indonesia) (Oon & Salam, 2002). The Global 200 is a science-based global ranking of the Earth's most

biologically outstanding terrestrial, freshwater and marine habitats. No.225 which was added because of its volcanic islands, endemic species, extensive coral ecosystems and coral reef fringing (WWF, 2002).

Langkawi contains many diverse habitats including tropical rainforests, mangrove forests and coral reefs. It has interesting geological features with its two high peaks: Gunung Raya (its tallest at 894m) and Machinchang (the oldest granite rock formation in South-East Asia, at 520 million years). Langkawi still has about 50% cover of tropical rainforests. To give some idea of the diversity so far 183 species of exotic birds, 130 species of migratory birds and 35 species of orchids have been recorded (Langkawi Nature Society (LNS) personal communication). The states of Kedah and Perlis and the south of Thailand experience a dry period from December to April. The forests in this small region are unusual semi-evergreen tropical forests. After the dry spell in around April the trees and bushes suddenly flower making this a particularly attractive time to visit. Since Langkawi is a cluster of islands, many endemic species have evolved, making its flora and fauna especially intriguing to nature lovers.

Langkawi has approximately 8000 hectares of mangroves left; there tidal forests are less diverse hosting around 15 species of mangrove plants but these have fascinating features including a breathing root system (*pneumatophores*), an ability to desalinate water through reverse osmosis and viviparous propagation.

The migration of fireflies can be seen in the Langkawi mangroves at certain times of year and like all wetlands, Langkawi provides a resting-place for migratory birds on their northbound migration (between March and April) and then southbound (between August and October). The southern, northern and eastern shoreline, islands and outcrops of Langkawi, have many caves due to the soft limestone rocks (Zimmerer, 2000).

Fig.III.VI. The location of Palau Payar (Wild Borneo, 2002)



There are some good coral reefs in the archipelago. In the Langkawi group (about an hour southeast of Palau Langkawi) is a 2km long and 250m wide island called Pulau Paya and three smaller islands (Naidu, 2002) which are part of a marine park. The reef here is reckoned to be one of the best off Malaysia's west coast (Eliot &

Bickersteth, 2002). Langkawi is very fortunate to have the potential to offer visitors ecotourism (a specific subset of sustainable tourism see Literature Review p11) because of its interesting natural environment.

III.V. ECOTOURISM ISSUES:

III.V.I. Trouble in the Mangrove Swamp

For about five years (early 90s) there were only 3 mangrove tour operators. They offered genuine ecotourism, charged a high price and catered for small groups. They received lots of press attention and became well-known and respected (Für Sie, 1998 and a English weekly article,1997, both cited Zimmerer, 2000 p145-149). Then imitators started running mangrove tours. Not all these operators have knowledge of the environment and some don't even have command of the English language. To

compensate they use gimmicks such as monkey feeding and eagle feeding to hold the tourists interest, see fig.III.VII below.



Fig.III.VII. Monkeys being fed crisps by a mangrove tour guide

These practices are having negative effects on the wildlife by changing their diet and creating a dependency, (see discussion p99 for a future research idea based on eagle feeding). This leads to problems for humans too as the monkeys learn to pester people for food and mimic our startled teeth display which they soon learn scares people into abandoning their food (Mobarak, personal communication, June 2002, and McIntyre, 2001). The less environmentally aware boat drivers drive too fast causing erosion to the river banks and trees, now more vulnerable after the river dredging and Kisap/Kilam river linking (which was completed in 2000). These imitators charge less and take more people, meaning the better operators also have to drop their prices to remain competitive.

Allegedly the dredging took place so that the larger boats could access the main bat cave (Gua Kelawar). Despite this investment and ecological disturbance, the wooden

walkway to the cave is in a dangerous state and badly requires maintenance. Now there is a steady stream of tourist boats passing the ‘Barn Thai’ restaurant situated where the two rivers meet. This restaurant is set deep within the mangrove and was previously only accessible by a 450 meter wooden walkway. A flyer advertising it reads *‘the restaurant is also a landmark of devotion to one of nature’s most remarkable ecological wonders – the mangrove swamp. It is one of the few restaurants in the world set within the unspoilt natural landscapes.’* Unfortunately the dredging process dumped the excess river bed soil onto the river bank which now prevents the regular flow of the much needed brackish water into the mangroves (Fong Oon & Salam, 2002). Now with so many boats on the water the original eco-guides struggle to make the tour appear like a journey into the wilderness (Zimmerer, personal communication, July 2002).

There are also pressures facing the mangrove swamps from other industries such land fill (see p36), aquaculture and low-cost housing. Substantial portions of the Kisap mangrove forest have been reclaimed for the anchovy fishing community resettlement project by LADA (Fong Oon & Salam, 2002). Due to the transient nature of this immigrant population there are concerns that these fishermen will harvest in an unsustainable way (Aidi Abdullah, personal communication, July 2002). Small aquaculture projects have been present for a while but now there are mega-aquaculture projects being constructed. Sadly the lack of dialogue between the key stakeholders using the mangrove swamp has led to vast cage cultures being placed at arguably the most beautiful site on the river (where part of ‘Anna and the King’ was filmed) posing another threat to ecotourism. Positive achievements are that a controversial project to illuminate many of the caves has been stopped, (although unfortunately the rather ugly electricity cable still remains), and limits to charcoal production have been created.

III.V.II. Well Being of Local People

III.V.II.I. Economic:

Ecotourism should sustain the well being of the local people, yet other authors have raised the concern that the needs of the local people are not a prime consideration of Malaysia’s decision makers when it comes to tourism (Bird, 1989). One elderly respondent to a question on employment and earning opportunities in Kayat’s recent

(2002) Langkawi study (about resident's attitudes and acceptance of tourism) said "*For the people who have businesses, tourism is really good. But not everyone has a business right? So, these ordinary people, there is not much changes to them.*" One important sector of businesses catering for tourism is accommodation and this thesis will later look at who owns and works in different categories of tourist accommodation.

III.V.II.II. Socio-Cultural:

Ecotourism as already mentioned is about ensuring the well being of the local people. This well being is not just economic but can also be viewed as allowing the indigenous population to maintain their cultural identity. In Malaysia, culture and religion are tightly intertwined and it is sometimes hard to distinguish one from the other (Mahathir, 2001). When human societies or communities come into contact with each other different values can conflict and lead people in different directions. Tourism creates observable situations where people of different societies meet and influence one another in both positive and negative ways.

In the literature, the term 'demonstration effect' is used to refer to this kind of imitation and emulation by local people of incoming tourists. Kayat's, (2002) study provides some interesting comments made by the local residents "*Tourism ruins the Malay culture and Islamic values... we need to adhere to these values*", "*People like coming here because they want to buy liquor. There are also some residents who are involved with alcohol. But I think it is under control.*" and "*The teenagers, they have problems. They are not grown up, but they have become bigheaded because they make their own money now. They smoke and become wild. Last time, there were no such things. They are influenced by the tourists' culture... they (the government) also need to develop the children... their behaviour and their education.*" Practices that hotels and guesthouses have put in place to minimise the negative cultural effects are researched in this work.

III.V.III. Can Ecotourism and Duty Free Shopping co-exist?

To an international tourist, Langkawi is not a destination for city shopping; it is principally an island destination for relaxation. To quote from the Footprint Malaysia Handbook [a guidebook aimed at the Western market] "*Although Langkawi enjoys duty*

free status there is not much reason to come here for the shopping. At least on a cursory appraisal, the range seems to be limited and the prices hardly bargain basement. [...] for visitors from outside Malaysia and Singapore it seems a long way to come to end up in some surreal tropical shopping paradise” (Eliot & Bickersteth, 2002). For Asian visitors Duty Free shopping is a more important reason for choosing Langkawi than for Westerners (see appendix V tables I and II). Conversely, Western tourists are more interested in natural attributes than the Asians (appendix V table III).

Fig.III.VIII. Advertisement for the cable car



This clash of tastes is most dramatic in one of Langkawi’s newest developments. A cable car has been built (not yet open to the public) to the top of Machinchang (the oldest granite rock formation in South-East Asia).

According to a public LADA notice board,

pictured in fig.III.VIII, this will provide stunning views over breathtaking rock cliffs and enable the tourist to see rare flora and fauna.

There are four main problems:

1. This project involved putting supporting towers in **Water Catchment Forest**. Per the Structure Plan (LDC, 1992) forest reserve of this classification is ‘preserved in its natural form, gazetted and conserved, and no development is permitted.’ [This is in contrast to **Protective and Recreation Forest** which is ‘preserved in its natural form and only development related to tourism leisure and recreation is to be permitted’ and **Production Forest** which is the ‘area where forest exploitation is permitted. It is also the area available for the future expansion of Kuah town.’] This effort at zoning was ignored, although the sensitive nature of the project did necessitate an environmental impact assessment (EIA) which favoured proceeding with the project (MAB, 2001).

2. At the foot of Machinchang where the cable car will board, an exclusive shopping development called Langkawi Oriental Village has been built and is already open, shown in fig.III.IX.



Fig.III.IX The Langkawi Oriental Shopping Village below Machinchang

Both the cable car and the Langkawi Oriental Village are LADA owned projects, although the Oriental Village is managed by Asiacape. Asiacape invites businesses to operate there that suit their business plan to make the Oriental Village an exclusive development. Shop staff are hired to work for the Oriental Village as a whole. The local Langkawi population will directly benefit from jobs but there are limited entrepreneurial opportunities to participate unless the businesses sell luxury goods, a hard task for most indigenous islanders.

3. It seems that the authorities are targeting the Duty Free shopping to international tastes when actually those wanting to do the shopping are the domestic visitors. For example, the Kedah Maju 2010 Action Plan (written in 2001) reads “*Langkawi also needs a world-class shopping centre like those in Kuala Lumpur and Penang as well as*

other world class tourist destinations like those in Dubai and Singapore. The establishment of the Oriental Village is the first step to this end and many more such places are planned.” Providing expensive designer shops may not meet the needs of domestic visitors. While Asians consider Duty Free more important to their choice than Westerners (see appendix V table II), they appear to buy items like chocolates and homewear (such as kitchen appliances and sets of crockery) not branded clothes and accessories.

4. Having a designer shopping centre below a natural attraction masquerading as ecotourism¹, whilst obviously trying to exploit the multiplier effect of the cable-car (MAB, 2001) unfortunately at the same time reduces the cable-car’s appeal as a journey into a pristine environment. The environment also seems set to get less pristine. Big developers such as Sunway Group (a construction, building materials and property development group (Sunway, 2002)) are already eyeing up the area around the cable-car for so-called ecotourism developments. Their chairman reportedly said “Beneath and surrounding the project was rainforest so it was wise to see what could be further developed from it” (The Star, 2002b).

¹ To earn the classification of ecotourism, the activity needs not only to be nature tourism but show it is sustainable. This is not demonstrated by building in a previously gazetted area and having minimal opportunity for local participation.

III.VI. LANGKAWI’S SUSTAINABILITY ISSUES:

III.VI.I. Water and Electricity:

Langkawi has reacted to increased usage of these resources by increasing the supply. The following have been built or planned:

- A water pipe-line stretching to the Malaysian mainland has been built in case of water shortages. LADA maintain that so far it has never been used (Aishah Binti Abdullah, personal communication, June 2002).
- Two 30 MW gas turbines generators were relocated from Kapar on the mainland to Langkawi at a cost of RM 43 million (TNP, 2002b).

- There are plans to establish a coal-fired power station on the Pulau Bunting (second largest island in the Langkawi archipelago) and build a 1.8km long bridge to connect the mainland to Pulau Bunting. Together this is a \$3.5bn. project (MBK, 2001).

This research will look at tourism's contribution to increased usage and explore ways to manage the demand.

III.VI.II. Rubbish:

The total rubbish weight for the whole island for February 2002 was 2,292,720 kg (LADA records). A significant amount of this must come from tourism because the weight varies between high and low season (Aishah Binti Abdullah (LADA Planning Manager) personal communication, June 2002). Most of Langkawi's rubbish ends up in the landfill site which is situated in the mangrove region by the Kisap river. This is in the natural mangrove hatchery and since 2000 the Kisap river has been joined to the prime ecotourism river, Kilim, which also contains the aquaculture fish farms. The smell may negatively affect mangrove tours and any leakage or run-off may contaminate the farms and natural hatcheries. There is no intermediate treatment of municipal waste in Malaysia and most landfill is carried out by open dumping (Anon, 2000). MDL (Majlis Daerah Langkawi) trucks can be seen dumping into the landfill from the Kisap river.

Langkawi also has two 10-tonne incinerators but due to high running costs, RM 1,800 a day compared to RM100 for landfilling, (The Star, 2000) the incinerators are only used approximately once a week (Aishah Binti Abdullah, personal communication, June 2002). There are also problems keeping inadmissible waste out of the incinerator (e.g. PVC, batteries, medicines, paints, solvents, chemicals, explosives, construction waste and metal). The solution has been to only divert garbage trucks which ply the hotel and commercial routes, to the incinerator. Theoretically these will have dryer waste such as paper, cardboard and plastic. But in most instances, what arrives at the incineration plants are unsorted rubbish bags. At the Langkawi plant, workers merely pick up whatever recyclables they can spot among the maggot-infested mess. Inadmissible waste thrown out by hotels and commerce ends up in the incinerator (The Star, 2000). Langkawi does not have the necessary recycling facilities to process the separated waste

so glass, aluminium and carton (newspapers) are sent over to the mainland (Zimmerer, personal communication, August 2002) although there is widespread belief that much of the recyclable material ends up in the landfill or incinerator as if it were regular rubbish (various other personal communications).

III.VI.III. Sewage:

Langkawi has no connected sewerage system and the most common practice is for hotels, guesthouses and island residents with pour-flush or flush toilets to channel sewage to septic tanks, constructed in individual compounds. The septic tank is an unconnected sewerage system requiring regular desludging to operate efficiently. The system provides very limited treatment and the effluent that is discharged into drains and rivers contain high levels of organic pollutants (LESTARI, 1997). Without desludging, untreated sewage and sludge solids will be released into the rivers and sea. This will cause depletion of dissolved oxygen, resulting in the death of aquatic life. Untreated sewage also poses a threat to public health since it may contain pathogenic bacteria and viruses that cause deadly diseases such as cholera, typhoid and hepatitis A (IWK, 2002).

III.VI.IV. Litter:

One very visible environmental problem in Langkawi is litter. The worst areas for rubbish on the beach are those areas where there are no hotels and guesthouses as these areas are entirely reliant on the local authority to clean them. The high tide mark at the southern end of Pantai Cenang is a particular disgrace and doesn't appear to have been cleared of rubbish for a long time as shown in fig.III.X on the next page. Even the smaller islands largely untouched by development also have coastlines scattered with washed up plastic rubbish.

The rubbish comes from a variety of sources. A lot comes in from the sea, some from boats, some from Thailand and some from the Langkawi's rivers and creeks. A lot is due to thoughtless littering, mostly by locals and local tourists. According to one informal interview, when the northeast monsoon comes, rubbish accumulated in

Langkawi's eleven creeks washes out to sea with the high seas and appears a couple of days later washed up on Langkawi's beaches.



Fig.III.X. Rubbish at the southern end of Pantai Cenang

III.VI.V. Recreation Activities:

Recreation is causing some sustainability issues. There is a boundary for water-skiing and scooters mentioned in the Structure Plan, LDC, 1992, but on the beaches where they are allowed there are some complaints about the noise pollution they cause.

However, golf courses have the most severe environmental effect of all the recreational activities on Langkawi. Langkawi has three golf courses (Naidu, 2002). Due to their large area forests have been cut down (for the Datai course, see fig.III.XI) and the operation of rubber tapping and processing had to cease (to make space for the Gunung Raya course) (Zimmerer, personal communication, August 2002).



Fig.III.XI. The Datai golf course in the rainforest

Once operational a golf course needs 3,000m³ of water per day, (which is according to Walsh (1996) enough to meet the needs of 15,000 Asians), and massive amounts of fertilizer leach out from the soil and are responsible for algal bloom in the sea (Green et al., 1991). The growing popularity of golf in Asia, especially among the space constrained Japanese and Singaporeans, has led to more courses being built in Malaysia and Thailand. In 1992 the Japanese government tightened the controls on the development of courses within Japan. No new courses, led to rocketing green-fees to keep numbers down. This has made travelling abroad for a few days to play golf elsewhere economically rational for Japanese players. Investors, capitalizing on Japanese golf fanaticism are injecting capital into building golf courses in Malaysia. Publicly, Malaysia welcomes the influx of capital and jobs that golf courses provide for their domestic economy. Countries in South-East Asia often give developers special tax incentives to build golf courses in their countries (Roberts, 1996). Langkawi's three courses are examples of Malaysian courses being built for Japanese and Singaporean demand.

IV. RESEARCH METHODS

IV.I. TOURIST QUESTIONNAIRE:

The questionnaire was written to conform to the downward funnel advised in the questionnaire design theory literature (Gendall, 1998). The first questions were factual about their stay (e.g. number of days, which hotel/guesthouse), questions which should be easy to answer. Then there were more attitudinal questions about their reasons for visiting Langkawi and what they enjoyed once in Langkawi, then they were asked how they spent their time yesterday (to trigger them into thinking about yesterday), leading into a more probing question about how they spent their money yesterday. Their motivations were covered by the questions looking at their understanding, participation and interest in ecotourism and finally there were the potentially more embarrassing socio-economic questions. The questionnaire was also pre-coded, (options were numbered) in order to make data entry and analysis straightforward later on. The questionnaire was reviewed by Dr E.J. Milner-Gulland (Imperial College tutor) in London and Muhamad Nasir Abdul Salam (WWF-M mentor) in Malaysia. Their comments were used to improve the questions.

IV.I.I. Pilot:

The pilot consisted of administering the questionnaire and improving it until the validity, relevance and sense of the questions was confirmed by the tourist's responses. 3 sets of 4 questionnaires and one 1 final set of 2 questionnaires were given to tourists to gain this level of comfort. The first group of 4 tourists were also asked to comment on any wording that they felt was ambiguous. The comments from the first round and the questionnaire answers from all the rounds were used to improve the questionnaire. Most notably the following changes were made (see appendix I for the final questionnaire):

1. Design features: Key words were put in bold or underlined and some clarifying clauses were added. The importance of visual presentation and having 'an attractive questionnaire' as advocated by Jenkins & Dillman, (1995) in the literature became apparent.

2. Illustrative examples: Two examples and an illustration ‘tick’ were added to clarify how the questions should be answered. This was considered necessary as English was not the first language for a large percentage of the respondents.
3. Additional options were added to the closed lists of choices to incorporate items that pilot respondents had written in ‘other.’ For example:
 - E: additional rows were added for ‘Spent time on the public beach’ and ‘Spent time in local restaurants and/or bars’ as 3 questionnaires used the ‘other’ space to add in comments about spending time on the beach and eating and drinking
 - F: additional rows were added for ‘entrance fees for attractions’(as this money goes to LADA or big businesses), car hire and petrol were included into the descriptions as this item kept appearing in ‘other’ and an additional line was added for ‘amounts paid in large duty free stores and international businesses.’
4. Before the final 2 pilot questionnaires question G was changed to provide a definition of ecotourism rather than asking the tourists to explain what they think the word means. Of the 12 questionnaires, only 1 had hit upon a sensible definition with “*environmentally friendly*”. If this change had not been made the answers would have been very difficult to analyse as all the respondents would be working with different concepts and the response rate for this question would be low. This showed that public understanding of the concept of ecotourism is poor and how people don’t like answering questions that test them.

The questionnaire was then showed to the Aishah Binti Abdullah, Planning Manager of LADA for her approval and input. One additional comment was raised: LADA were keen to find out where tourists heard about Langkawi and the hotels they stayed in e.g. the internet, guidebooks etc. To cover this, additional open questions were added into the opening factual part of the questionnaire.

IV.I.II. Execution:

Questionnaires were given to 282 tourists. 100 were given to tourists directly by myself either outside Underwater World (aquarium) (from about 2.30pm to 5pm), on the beach (usually between about 5pm and 7.30pm when it was not so hot), and in bars and

restaurants (7.30pm until late). 50 were given out by East Marine Dive Operators on the guests' return trip from Pulau Payar. The other 132 were given out by hotel and guesthouse staff, usually when guests were checking out (see p47). Having different questionnaire delivery methods was necessary to get coverage of a diverse range of tourists (this was achieved as guests from 42 different hotels and guesthouses, 1 cruise passenger and 1 person staying with a friend were sampled). Without the different delivery methods, it would have been difficult to capture the tourists in the exclusive resorts who used the public beach and local restaurants far less. The questionnaire was self-administered by the tourist, meaning they were always left alone to complete the questionnaire. When it was given to the tourists directly it would be collected from them 5-10 minutes after it had been given out. With the other methods the tourist would either return it to the East Marine boat staff or the hotel or guesthouse receptionist at check-out.

The questionnaires given out directly were introduced with the preamble "*I am from the University of London and I am in Langkawi for ten weeks researching tourism. I would be very grateful for your help in completing a questionnaire.*" It was vital to mention that it was research with a University first as that immediately removed potential participants fear that the questionnaire was to sell them something. It was also important not to ask any leading questions such as 'do you speak English?' or 'are you a tourist?' because this immediately gave them a reason to refuse. If either of these applied they soon volunteered the information. If any tourists were curious to know more about the research they had to wait until they had completed the questionnaire. This was to ensure that their responses were not altered by any additional information they acquired that had not been given to other respondents.

IV.I.III. Response Rates and Limitations:

Although 282 questionnaires were given to tourists only 250 were completed (89%). (The 3 withdrawals from a guesthouse suspected of making the questionnaires up are included in the 32 uncompleted questionnaires (there is more discussion of this later on p48)). There were also some guesthouses and hotels who refused to take questionnaires to give their guests or who took them and returned them blank, saying that it had not been possible to arrange for guests to complete them. These items are not included in

the 282 because the tourist had not failed to complete the questionnaire; they had not even seen it.

The sample size of 250 tourists is small relative to the total tourist population. Given LADA estimates of arrivals for two months, (the duration of intense fieldwork) at approximately 225,000, the sample of 250 represents approximately 0.001%. Not all these arrivals behave as 'visitors who stay in hotel and guesthouse rooms' (see Background section III.III.I). Taking this into account the sample would represent a higher percentage.

The method of non-random sampling was used to provide a respectable number of completed questionnaires in a relatively short fieldwork period. The alternative probability based methods would have resulted in fewer completed questionnaires. These include:

- Random sampling: Table numbers at restaurants or room numbers at hotels could have been selected with random number tables and only tourists at or in these locations could have been asked to complete the questionnaire. This method would have enabled calculation of whether the sample was representative.
- Stratified random: The population could have been divided into groups by either nationality or accommodation type, and within each strata random sampling methods used. This would have allowed increased accuracy of estimates and individual stratum estimates to be made.
- Systematic random: Starting from a random point the population would be sampled at regular intervals. For example, every tenth name on a hotel register, or every tenth person coming out of UnderwaterWorld or checking-in at the airport.

There is a bias towards Westerners, especially British guests. There are 69 British tourists in the sample of 250. When the questionnaires were being given out directly on the beach and in restaurants, tourists of all nationalities were approached. Yet when the hotels gave their guests questionnaires, because they knew the research was being conducted by someone from a London University, the hotel staff seemed to assume that

the researcher would be more interested in other people from the UK. Alternatively they may have found it easier to approach British guests because they could mention that the research was being conducted by someone British and assume those guests would be more sympathetic to answering a questionnaire on holiday for someone of the same nationality and language.

There is a bias against eastern Asian tourists because they had the poorest English. There are 5 Japanese, 1 Taiwanese and 1 Korean in the sample of 250, yet these three nationalities made up 10% of the international arrivals in 2001 (based on LADA figures which include the Star Cruise). If they were approached in spoken English with a questionnaire written in English, either or both of the spoken and written word was difficult for them, making it hard for them to successfully agree to answer and complete the questionnaire.

The questionnaire was not relevant to passengers from the mainly eastern Asian tourists on the Star Cruise ship. There is one completed questionnaire from a passenger in the sample of 250 and there are a number of incomplete questionnaires in the 32 refusals (see p42). The questionnaire was not geared to their situation because they do not stay in Langkawi for a night.

IV.I.IV. Analysis methodology:

Some issues arose during analysis:

1. About ten tourists had put ticks instead of ranks in question D (see appendix I). Ranks were inferred by adding up a rank for every tick given and dividing by the total number of ticks. For example if there were four ticks in one column: $1+2+3+4$ divided by $4 = 2.5$. This rank would be given to all the four factors. Items that were not ticked were not given a rank.
2. Where tourists had not specified the room rate, matching was used to assign a rate to the room corresponding to what other tourists had said that a room of this kind in the same hotel cost them. Occasionally matching was impossible; in these instances the hotels were telephoned and were asked the price of the necessary category of room. It

was felt this was more accurate than using the room rates provided in the hotel survey as these were the high season rates whilst the questionnaires were conducted in low season. The price difference between high and low season was usually about 30%.

3. Financial values for the two items, taxi fares and golf fees, were the most frequently occurring classifications in the 'other' column. Taxi fares were reclassified as "Amounts paid to local shops and businesses." Golf fees were reclassified as "Amounts put on hotel bill" because the golf clubs most closely resemble a hotel or resort where only a proportion of the turnover is spent on local labour and supplies and where the profit probably goes to a company whose shareholders do not live on Langkawi. Fortunately all the people who specified golf fees were staying in hotels so the treatment of golf fees within the "hotel bill" category was appropriate.

IV.II. HOTEL AND GUESTHOUSE SURVEY:

A survey was written covering issues relevant to the environmental management of hotels and guesthouses on Langkawi (see appendix II). The first draft was started before leaving the UK. The survey began with straightforward questions like asking the name of the establishment and the number of rooms, this device was to encourage participants to start answering it. The answer spaces and options were also pre-coded to make data entry and analysis straightforward. Once in the field the survey was amended to make it more relevant to the situation in Langkawi.

IV.II.I. Pilot:

This survey was piloted by four very different establishments, 1 3 star, 1 boutique, 1 large guesthouse and 1 small guesthouse. The 3 star hotel completed the survey in 24 hours, the other 3 establishments took 3 days to complete the survey. The boutique hotel survey was filled in face-to-face with the hotel manager in an interview style, which provided additional insight into which questions were problematic and gave new ideas for options to include. Many changes were made to the survey from the pilot, most significantly:

1. The questions changed from being open ended (requiring words and explanations) to being closed with choices to tick. This was to make the survey easier for the guesthouses to complete as in the pilot they tended to leave questions blank if they were expected to respond in words at length. The smaller guesthouse owners do not always have good English so open questions were understandably intimidating. Tickable options in tables was also considered beneficial for analysing results as the results can be coded and turned into percentages and graphs considerably more accurately and efficiently than unstructured written responses. Closed questions are also recommended in the literature to increase response rates (Gendall, 1998).
2. The answers from the pilot were used as the options to be ticked, for example Question 3b was added because of the discovery from the boutique hotel that rubbish was sometimes collected by a local contractor rather than the local authority. The hotel considered that a contractor was worth paying for because space for rubbish was limited and overflowing smelly rubbish would be bad for business. Also the question “Is recyclable and non-recyclable waste separated prior to collection?” was added because the 3 star hotel mentioned under their environmental policy (5e) that they separated waste in this way. The improved survey establishes the percentage of the establishments which do this.
3. More specific detail to the situation in Langkawi was added. For example the pilot responses gave more knowledge about sewerage systems in Langkawi and uncovered information gaps. This led to further desk research on septic tanks, which was used to create a table of options tailored to Langkawi (researched mostly from LESTARI, 1997).
4. More detail was added to the options, for example to clarify whether business owners living on Langkawi were Malaysian or of another nationality.
5. Entirely new questions were added, most notably the addition of section 8 on recreation and in 7d a list of tours offered on Langkawi (researched from Naidu, 2002) for the managers to tick the ones regularly booked. The list for 7d was added to collect more information about the popularity of nature tourism and the potential for ecotourism from the hotels to back up or challenge the tourist’s questionnaire answers.

IV.II.II. Execution:

Once the survey was amended it was put together with a covering letter and a letter of consent for the study that had been obtained from LADA (see appendix II). It was administered using the drop-off method. It was intended that every hotel and guesthouse on the island should be included. In reality all 32 of the 35 establishments classified as hotels (1 was on a different island, 1 was being refurbished and 1 wasn't open yet) and all the 17 guesthouses in the main tourist belt of Pantai Cenang and Pantai Tengah received a survey. [Note 2 hotels and 2 guesthouses had already been used for the pilot making the total hotel number 37 and the guesthouses in the tourist belt 19.] In addition 12 of the remaining 18 other guesthouses were covered, 6 could not be found (see later p49). The judgement was made that it would be inefficient to spend vast amounts of time locating these 6 guesthouses when the sample size was already large and the coverage of the island was already thorough. In total 61 had surveys delivered to them. See appendix III for a record and classification of hotels and guesthouse that were present on Langkawi during June and early July 2002.

It was delivered by hand with a personal introduction to the management. If it was not possible to see the management, it was introduced to and left with a receptionist. It was never left without a personal introduction of some kind. This introduction was: *"I am from the University of London, I am in Langkawi for ten weeks researching tourism and that I would be very grateful for your help in completing a survey."* The hotel manager was encouraged to look through the survey and as they did this it was further explained *"I have the consent of LADA for doing this work [pointing at the LADA letter]. Here is my handphone number [pointing at the covering letter with the number], please call me if you have any queries."* At the same time between 0 and 20 tourist questionnaires (as agreed with the management) were left at the hotel/guesthouse. The small guesthouses usually accepted about 3, the hotels about 5-8. This enabled a broad spread of tourists staying in all classes of accommodation to be covered. It was an attempt to get a diverse range of tourists and opinions. The management were asked to designate a suitable time for the completed survey and questionnaires to be collected, it was recommended they needed 3 days as this was the length of time the pilot establishments had taken. On the designated day the hotels/guesthouses were visited and the surveys collected. Often they were not ready for completion, in these cases the hotels were

either visited or phoned each day until the survey and some questionnaires were completed.

IV.II.III. Reliability checks:

On collection, the completed survey was perused and any omissions or unusual answers were queried immediately with the management. This checked the reliability of the data and sometimes revealed more information. One common omission was on staff numbers (question 9a). When the establishment couldn't give an exact breakdown in the different categories they often gave no information at all. This was always queried and often some information was found, such as the total number of Malaysians working in there (rather than the split between those Malaysians who had lived on Langkawi before and after 1987).

Once the data was entered into an access database any obvious anomalies were checked out. For example there was suspicion that more hotels were saying that they were sending people on certain tours than really were. The Canopy adventures tour was very new and the operator was an acquaintance. He was asked which hotels sent tourists on the tour with him and the information provided was checked to the results given by the hotels/guesthouses. There were two establishments where they had said they were booking the tour when they were not. One was a small hotel, which had ticked every tour. They were phoned and asked the question again and I said it was important to only state tours that were booked regularly. This time they reduced the number to 7 (out of the 13 options) which they said they booked regularly. The other establishment which was caught out was a small guesthouse who had completed the survey and tourist questionnaires suspiciously quickly. The rest of the survey was reviewed and it seemed adequate except for the information about staff nationalities. A judgement was made not to include this in the analysis (p82), because the information given conflicted with all the other guesthouses and it was not trusted. There were also already doubts about the authenticity of the tourist questionnaires returned by this guesthouse. They were all completed in the same ink and made the same mistakes on all the questionnaires. The decision was taken to withdraw these tourist questionnaires from the data as there was mounting evidence that they were not completed by genuine tourists as the guesthouse had already been shown to have exaggerated in the survey.

IV.II.IV. Return Rates and Limitations:

51 out of a total of 74 (69%) hotels and guesthouses in Langkawi completed the survey. This increases to 74% if the 4 pilots are included. The reasons that 19 hotels/guesthouses did not complete a survey (real or pilot) were:

Lack of English skills:	1
Immediate outright refusal:	1
Outright refusal after a lot of chasing:	2
Ongoing procrastination and excuses:	4
Bureaucracy requiring the head office (in KL) to complete the survey (which then was not done in time):	2
Not open for business (refurbishment or still being fitted out prior to opening):	2
Unable to find easily (1 was on a different island, 2 didn't have telephones in service, 1 didn't speak English on the phone, 3 couldn't be found):	7

There may be an incentive for hotels and guesthouses to lie. Having a letter of consent from LADA was extremely useful for persuading the hotels and guesthouses that the study was legitimate and the results would be fed back to policymakers and may be used. Unfortunately the letter may also make the hotels and guesthouses more hesitant about being truthful about sensitive questions. Efforts were made to minimise this effect. The covering letter explicitly states *“The answers are confidential and for my eyes only. It is only the hotel's combined responses that will be analysed in the final thesis”* (see appendix II).

There are still some potentially unreliable answers despite these phone calls. Most notably the most sensitive question turned out to be the sewage question. Here most hotels and guesthouses were saying that they have a septic tank which is desludged by Indah Water Konsortium (IWK) a couple of times a year. However of the 3 guesthouses that said that the sewage went straight to the sea, 2 were guesthouses that the researcher had an especially good relationship with and were considered more likely to be honest as they would trust they would remain anonymous (see Results and

Analysis p57). There is reason to suspect that the 7 establishments who did not provide an answer to this question are not regularly desludging. It may be that many of the others were only claiming that their tanks were regularly desludged because that was what they thought the researcher wanted to hear and how they thought they should be behaving.

IV.III. INFORMAL INTERVIEWS:

About 25 key informants were interviewed informally with minimal notes and no recording. This was to gain background knowledge about the island and to put the research into context. Sometimes the interviews were deliberate and planned; sometimes they occurred spontaneously because of someone's desire to talk when they discovered research was being carried out. The current absence of participatory consultative processes on Langkawi meant there were many people with strong informed views but with few opportunities for expressing them. These people were keen to talk and feed into any research that might be used by LADA or WWF-M. In most cases the informants were talking off the record and their desire to remain anonymous will be respected. (Some that were not anonymous have been named in the thesis and a list of their names and affiliations is provided in appendix IV).

IV.IV. CONFERENCE PARTICIPATION AND ATTENDANCE:

On the 16th-17th July, 2002 WWF-M, LADA and the Department of Fisheries Malaysia (DOFM) hosted a workshop entitled 'Sustainable Utilization of the Langkawi Archipelago's Marine and Coastal Resources.' As well as presenting the preliminary findings from this research, the workshop was fundamental to this project in many other respects. The other papers presented were relevant to my research and the stakeholder participation sessions were very valuable for gathering diverse opinions. During the conference informal discussions with academics, civil servants, people representing NGOs and concerned local stakeholders, again added a lot of insights which gave the final analysis more depth.

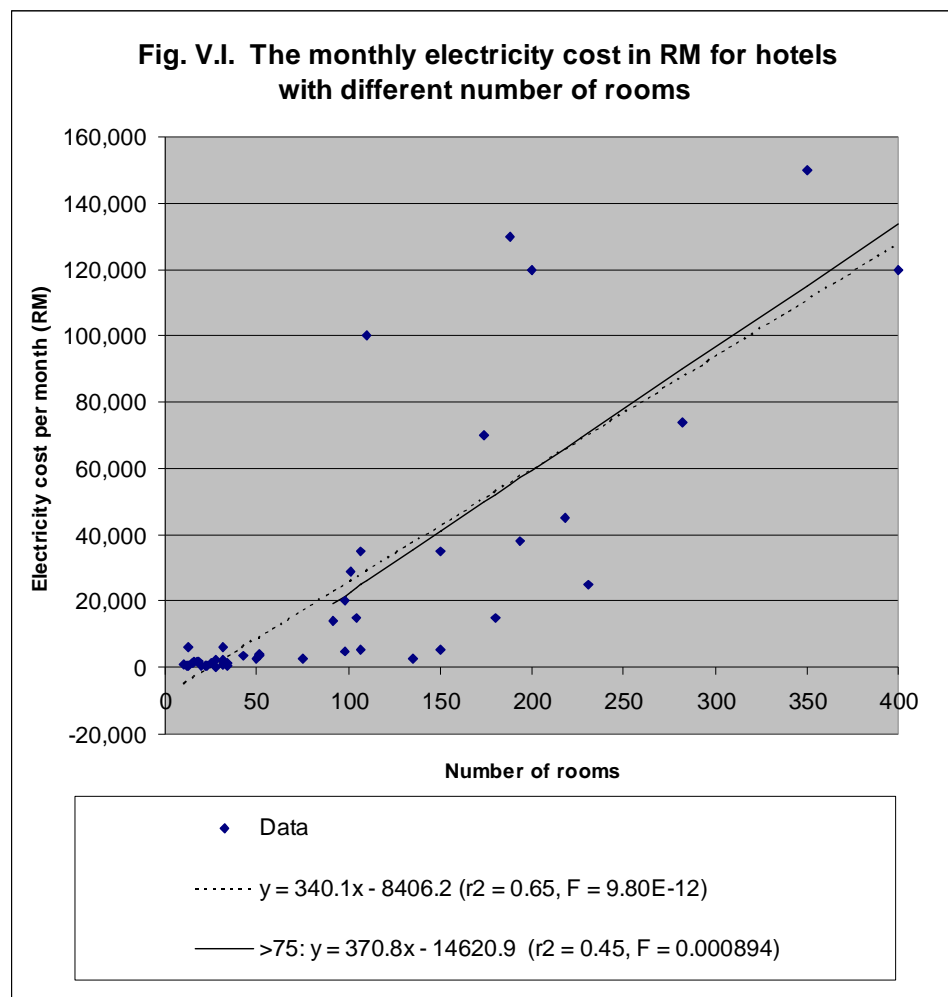
V. RESULTS AND ANALYSIS

The analysis of the hotel survey results that look at the broader concept of sustainable tourism will be presented first, then the results from both the hotel survey and tourist questionnaires that relate to ecotourism will be analysed. The results from ecotourism will be divided into two main themes, those relating to issues to do with natural areas and those relating to the effect on the local economy.

V.I. SUSTAINABLE TOURISM:

V.I.I. Electricity:

The establishments were asked what their total electricity cost per month (average) was. 47 of the 51 establishments answered this question and these results are shown in fig.V.I.

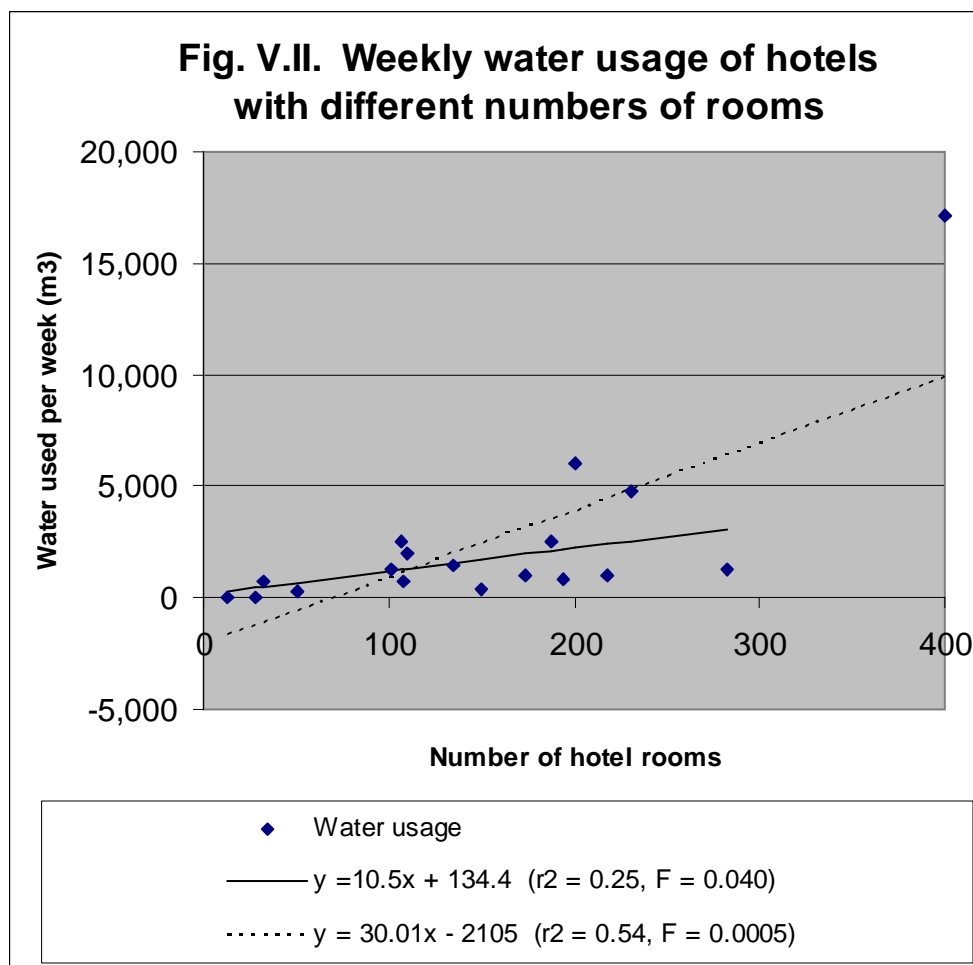


One regression line encompassing all the data points has an r^2 value of 0.65 indicating a significant positive correlation between the cost of electricity and the number of rooms. Yet, this line ignores the pattern made by the raw data points. Hotels and guesthouses with less than 75 rooms have virtually no difference in their average monthly electricity bill. As an alternative two regression lines were calculated (for less than 75 rooms, and, more than 75 rooms) and it was found that there is no significant trend under 75 rooms but a clear trend above 75 rooms. The regression line for establishments with more than 75 rooms is also depicted on fig.V.I. Hotels over 75 rooms use disproportionately more electricity than their smaller counterparts and there is also much more variability at between hotels with large numbers of rooms

The total monthly electricity usage of the 47 establishments (from the raw data they provided) is RM 1,104,695 (covering 4410 of Langkawi's 6000 rooms). At the average commercial rate of 21.04 sen/kWh (TNP, 2002a) this gives 5,259,452 kWh of electricity used every month by 47 of the hotels and guesthouses.

V.I.II. Water:

The hotels and guesthouses were asked to give their total water usage per week. This was always expected to be a difficult question and indeed only 19 of the 51 establishments answered it. There was confusion by the respondents over units. 9 answered in m^3 (the most common unit used), 6 respondents who answered in RM (converted using the average price for Malaysia of RM1.17 per m^3 (Walters, 2002)), 1 used gallons per day, 2 used "units" (the assumption was made that they meant m^3 (the numbers made sense as m^3)) and 1 used mg. The answer in mg was not used for the graph. Two regression lines were plotted on fig.V.II on p53, the dotted line was the regression from using all the data points, and the solid line was the regression line excluding the highest data-point at 400 rooms which could be an anomaly.

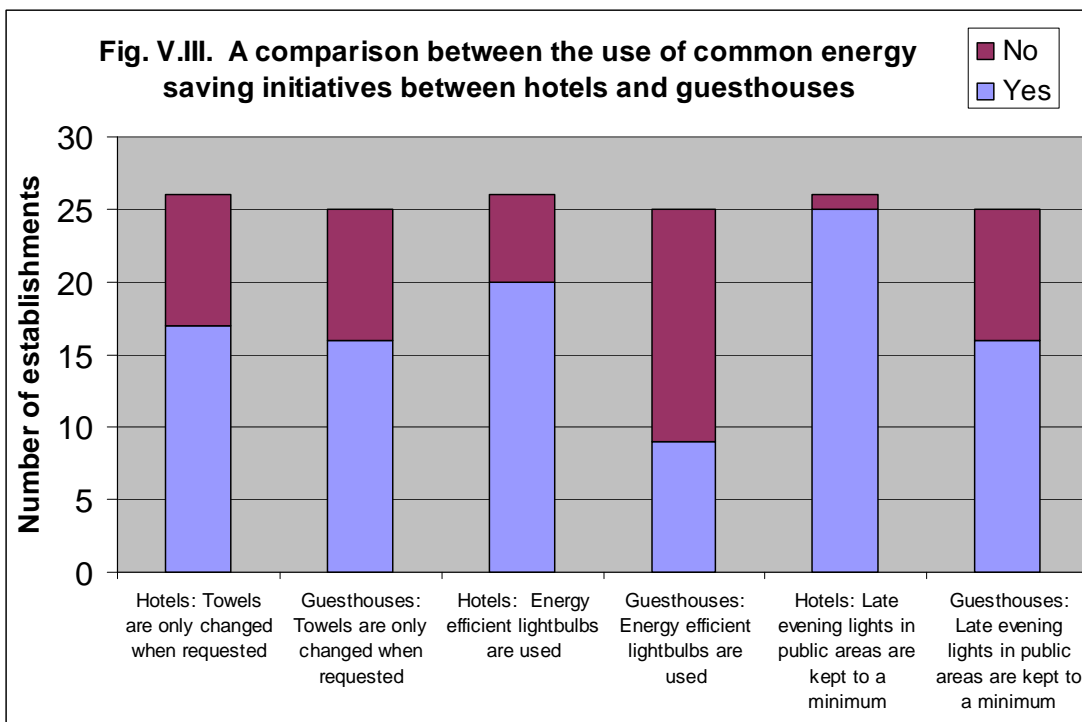


The expected value was calculated for all 51 hotels in the sample's weekly water use, using the range taken from the 95% confidence limits on the regression coefficient. Each upper and lower value was added to get a crude estimate of the overall water usage for the 51 hotels (representing 4750 of the 6000 rooms on Langkawi) with a range around that estimate. Based on $y = 10.5x + 134.4$ the expected value of total weekly water use (for the sample of 51) was $57,135\text{m}^3$ and the range between $32,244\text{m}^3$ and $1,169,798\text{m}^3$. This estimate may be on the low side because the highest data point may not be an anomaly. More data is badly needed from the hotels at the top end of the scale.

V.I.III Initiatives to improve energy and water efficiency:

The survey results also show that the hotels and guesthouses are adopting measures to improve energy and water efficiency. Guesthouses generally adopt fewer initiatives; most notably it seems they are far worse at using energy efficient lightbulbs. This may

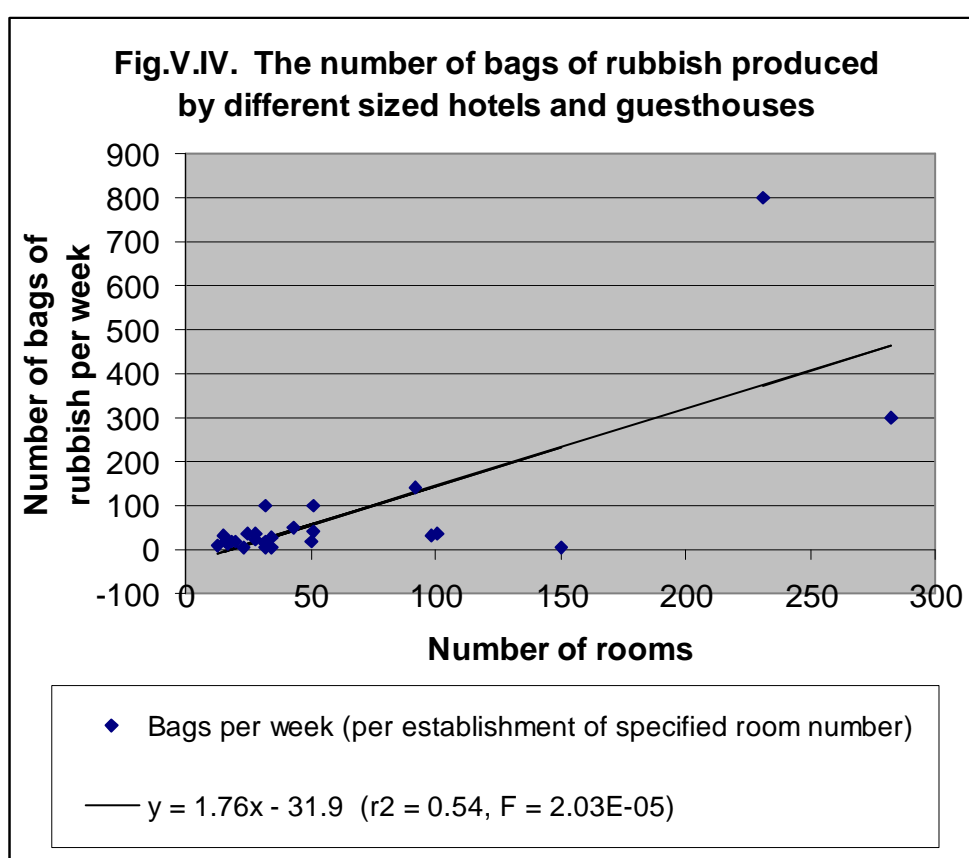
be because of lack of awareness or the high initial cost of purchase which may prove prohibitive for the smaller businesses. It may also be because it is less relevant to them as looking back at fig.V.I. the slope increase per hotel room was not significant when the establishments had less than 75 rooms (mostly guesthouses), compared to the slope going up RM370.8 per month per hotel room when the establishments had more than 75 rooms. The increased slope and greater variability at the large room values on fig.V.I indicates this is where electricity saving measures have the most potential.



Apart from those measures shown in fig.V.III., 5 establishments mentioned using timers on either compound lighting, heavy duty equipment, air-conditioning or heavy duty drink chillers; 3 establishments mentioned using a keytag system to ensure the lights and air-conditioning are turned off when the guests are out and the keytag is not docked in the controlling cradle in their room; 1 establishment mentioned water saving shower heads, 1 establishment mentioned using water reducing valves and turning hot water and air-conditioning off in vacant rooms and 1 establishment mentioned selling rooms block by block in low season. All these measures will also save the businesses money so there is a financial incentive for adopting these initiatives.

V.I.IV. Rubbish:

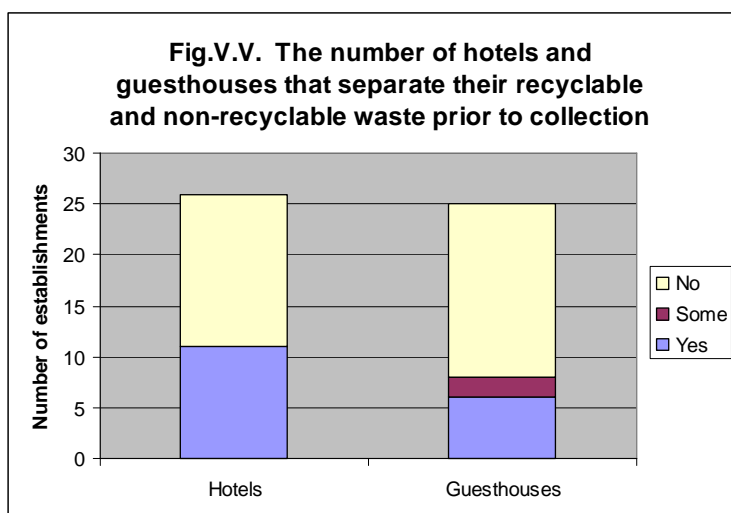
The total amount of physical waste produced each week was estimated by 32 establishments (of the sample of 51). 24 gave answers in ‘bags,’ 2 in kg, 2 in tonnes, 3 in lorries and 1 in m³. The 1 answer in m³ has been excluded as this is volume not weight and the 3 answers in lorries have been excluded as the capacity in weight of a lorry is unknown. An assumption has been made that one bag weighs 5kg (this assumption was made by weighing 5 full rubbish bags: 2.2kg, 3.4kg, 5.2kg, 6.1kg and 8.0kg, mean = 4.98kg).



The 28 scatter points (bags of rubbish per week against the number of rooms in the establishment) are significantly positively correlated. The total weekly rubbish of the 28 establishments (from the data they provided) is 1897 bags (covering 1548 of Langkawi’s 6000 rooms). At the average weight of 5kgs (see earlier assumption) this is 9,485kg of rubbish per week (range using 2.2kg and 8.0kg is between 4,173kg and 15,176kg).

78.4% of the hotels and guesthouses (who answered the survey) have their rubbish collected by the Local Authority (MDL). The 17.6% which have their rubbish collected by a local contractor for a fee are all hotels. There are also 4% (also hotels) that use a local contractor for some of their rubbish. 88.2% of the establishments believe their rubbish goes to the Local Authority (MDL) dumpsite, while 3 establishments think that their rubbish is incinerated, either totally or in part, and 3 guesthouses being unsure where their rubbish goes. All rubbish ends up under Local Authority supervision, most is landfilled and some is incinerated (see Background III.IV.II p36).

37.3% of hotels and guesthouses are separating at least some of their recyclable and non-recyclable rubbish. There are slightly more hotels doing this than guesthouses (see fig.V.V.). One hotel commented about the necessity for the recycling issue to be tackled consistently and rigorously, citing the following example *“the Local Authority distributed recycle bins to hotels and resorts in 2001 but the bins were never emptied by them.”*

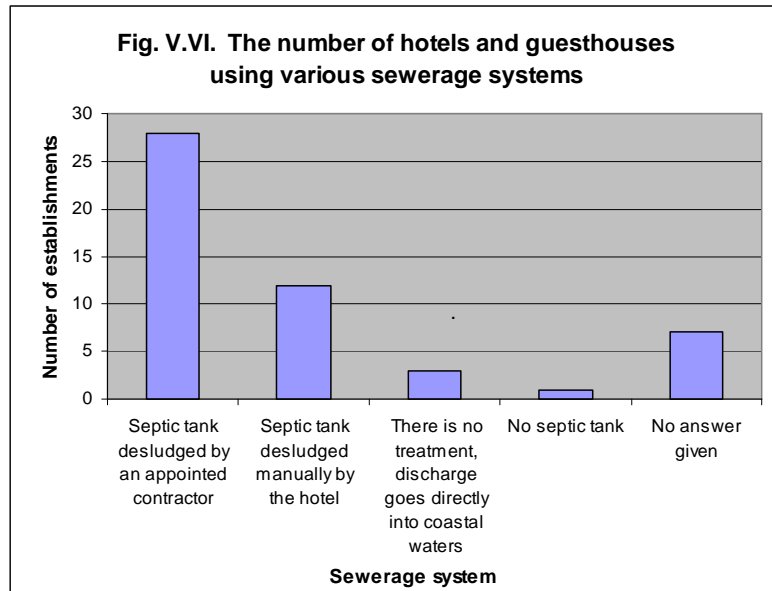


Only six establishments responded to the question about whether any efforts are made by the hotel/guesthouse to reduce waste. Only four establishments (three hotels and one guesthouse) answered adequately with examples. The examples

that they gave were: paper is photocopied on both sides, envelopes are recycled, only recycled paper is used, used A4 paper is used for rough paper, soap and shampoo containers are reused, bags are non-plastic (e.g. in gift shop) and paper plates and paper cups are not used. The responses not considered to be adequate were a hotel saying vaguely *“reduce consumption”* and a guesthouse encouraging *“guests to throw away rubbish by themselves elsewhere.”*

V.I.V. Sewage:

Fig.V.VI. shows 4 establishments admitting to either no septic tank or discharge going to coastal waters. Another 7 provided no answer so could also have inadequate sewerage practices.



Those with septic tanks and who desludge using an appointed contractor or do it manually, may still be adding to adverse environmental and public health effects if desludging is not performed regularly or the sludge treated properly. The

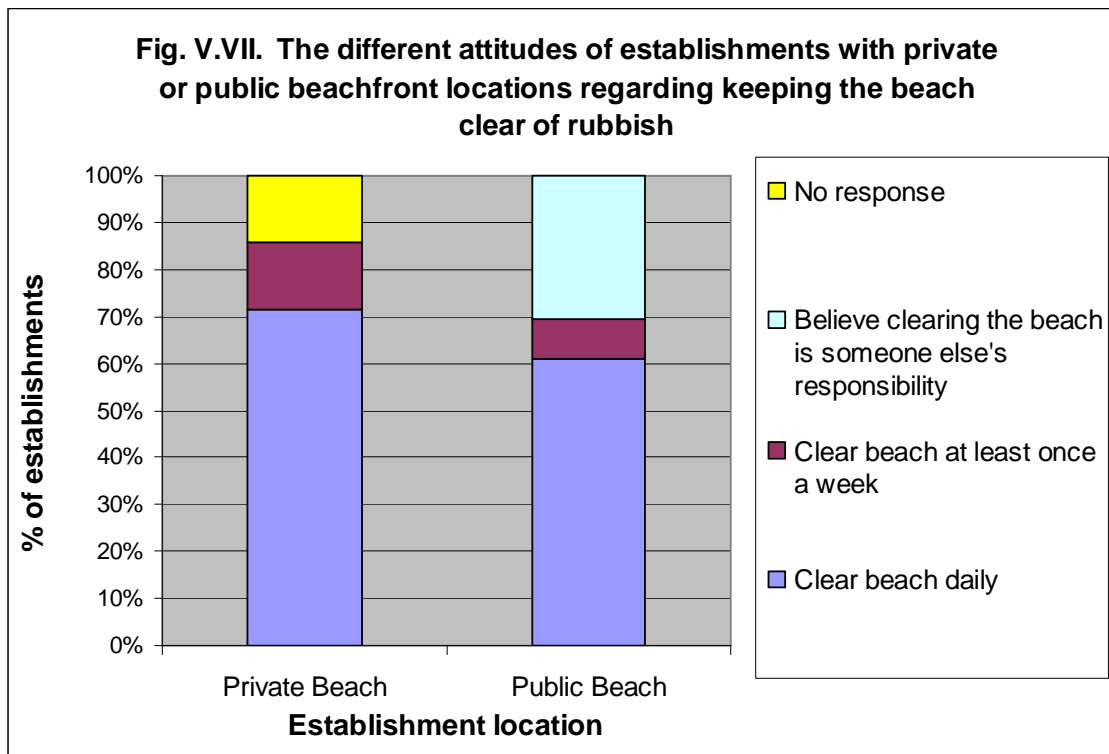
maximum amount of sludge that a septic tank can store is approximately a third of its total volume, it is crucial to have the tank desludged when sludge reaches this level (IWK, 2002). From additional information given on the survey it seems that it is the most common practice for Indah Water Konsortium (IWK) to desludge the septic tank about twice a year and this is usually arranged by request. There were other respondents who mentioned desludging every 5 years or every 2-3 years, which is more likely to be inadequate, although adequacy is very situation dependent. One informal interview with a guesthouse, (who admitted in the survey that their discharge is not treated and goes directly into coastal waters), revealed that the charges they faced from IWK were so high that paying would put them out of business so regrettably they did not desludge but let the effluent flow untreated into the sea. Another guesthouse made the comment on the survey form that they “*had to bear the cost of previous owner not desludging regularly when they took over the property and had the built up sludge to remove.*” The septic tank system seems to create the financial incentive to cheat; this damages the environment and risks public health. One guesthouse mentioned verbally that guests sometimes get rashes if they swim a lot in the sea. This is not a new problem as Bird discussed the health hazard to the local people and tourists from raw sewage in her 1989 book.

40% of guesthouses and 69% of hotels answered that they would be willing to invest in a better sewerage treatment system. The 3 hotels that answered No gave the reason that their sewerage system had recently been updated and there was no need.

V.I.VI. Litter:

A staggering number of tourists wrote comments voluntarily on the tourist questionnaire about the unacceptable amounts of rubbish on the beach and by other natural attractions such as the Seven Wells waterfall. One first time visitor to Langkawi from New Zealand, who was staying at a small boutique hotel on Pantai Cenang wrote: *“Although there are many signs around the island indicating heavy fines for littering, the amount of litter on the beaches is excessive. How about rubbish bins on the beaches? They are too beautiful to destroy with litter.”*

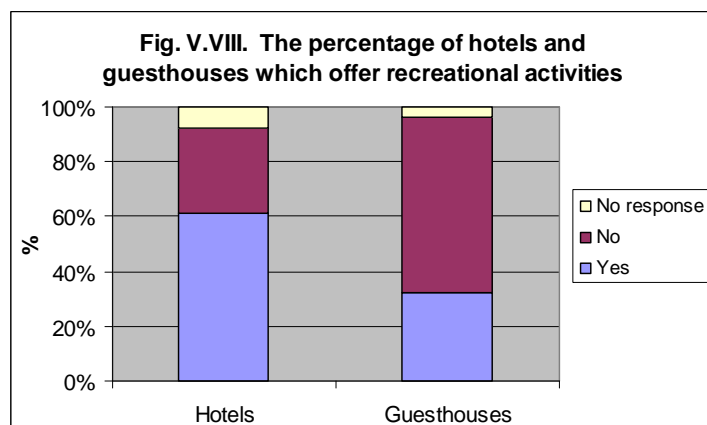
From the 51 hotel and guesthouse surveys, 7 hotels had a private beach, 23 establishments were located on the public beaches and 21 did not have a beachfront location. 7 establishments situated on the public beach believed that keeping the beach clear of rubbish was someone else’s responsibility.



The suggestions for who this might be were: 4 mentions of the local authority (MDL), 1 mention of the state government, 1 mention of the central government and 1 mention of “people who live there.” MDL does clean the beaches but not sufficiently frequently to keep the rubbish problem under control. Under this regime, hotels and guesthouses cannot afford to rely on the local authority or they risk dissatisfied guests.

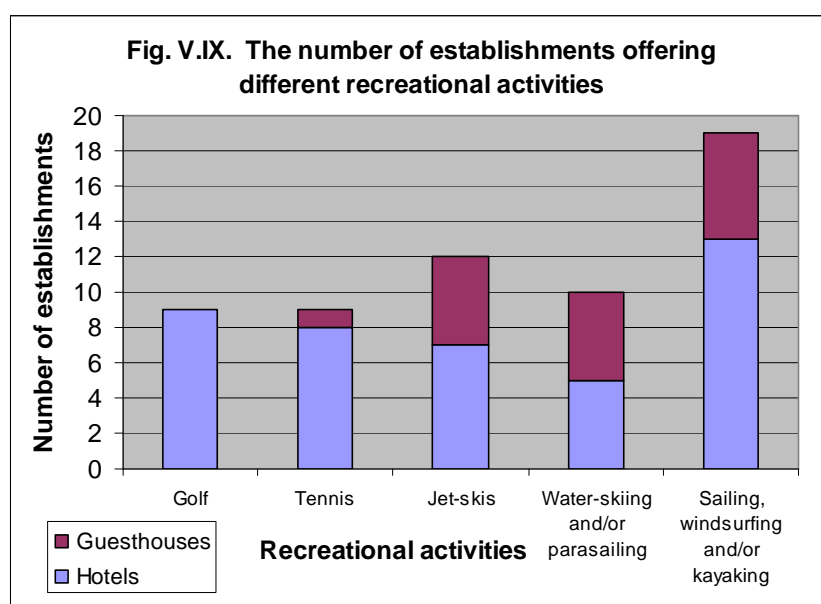
V.I.VII. Recreation activities:

Recreation activities can be environmentally damaging and compromise sustainable use if they are not properly controlled. The percentage of establishments that offer recreational activities is shown in fig.V.VII below. The graph shows that the hotels offer approximately 30% more recreational activities than the guesthouses.



FigV.IX below shows that the largest number of establishments offer the environmentally benign water-sports such as sailing, windsurfing and/or kayaking. This may be because of environmental awareness,

environmental regulations (the boundary for motorised sports (LDC, 1992)) or it may be because it is the activity with the smallest capital costs. 8 out of the 9 establishments that offer tennis are hotels and only



hotels offer the environmentally problematic golf (see Background section III.VI.V).

V.I.VIII. Environmental management:

21 hotels and 4 guesthouses answered section 5 of the survey on environmental management. 9 of the 25 (or 17.6% of the total 51) had an environmental management system. Only one hotel on Langkawi has ISO14001, although one other is trying hard to get it and another has noteworthy environmental management. These three hotels all have five stars. Only one hotel mentioned that a hotel product was environmentally certified; its shampoos were labelled as biodegradable.

19 (of the 25) claimed that environmental and social issues were factored into operations and effectively monitored. Of the remaining 6, 4 said that environmental and social operations were not factored into operations and effectively monitored and 2 did not answer. 13 of those that claimed to be factoring these matters into operations did so using housekeeping checklists. 5 establishments using housekeeping checklists were also using an environmental management system.

9 establishments provided an environmental policy:

- 3 were simple and similar, stressing keeping the hotel clean.
- 3 were really just mentions of good practices that had previously been adopted by the hotel, such as *'during construction we tried to save as many trees as we can, only cut those which was necessary.'*
- 1 read like a policy but didn't seem overly applicable to running a hotel. This was *'Work with nature, preserve nature, no killing of animals allowed.'*
- 2 were more sophisticated and were read more like policies, *'Recycling, environmentally friendly effluence and training. The resort has adopted this policy to minimise pollution'* and *'We need to keep a good environment in order for us to give a good service to our guests and to keep Langkawi as a tourist destination.'*

The 15 mission statements collected were not overly useful for judging environmental management. The few mentions of the environment in these seemed rather contrived.

V.II. ECOTOURISM:

V.II.I. Why tourist's choose Langkawi, and, factors important to their experience

The questionnaire asked the sample of 250 tourists why they chose to visit and what they experienced and enjoyed most whilst staying on Langkawi (see Appendix I part D). Since the sample is small, possibly unrepresentative and only represents a snapshot in time, the results cannot be applied to the entire tourist population. Nonetheless it provides some clues as to why different groups of people (within the sample) are choosing and enjoying this tourist destination.

This part of the analysis splits into two sections 'choice' and 'experience.' Both these sections follow the same format:

1. The average ranked order of their choices/experiences. The means and medians were calculated excluding zeros (which indicate that no choice was made).
2. Testing whether different groupings of tourists significantly differ in their reasons for either, choosing to visit, or, enjoying and experiencing. The sample of 250 tourists can be split up in many different ways. Four interesting divisions (with fairly balanced divisions of respondents) were systematically explored. These are:

- 146 Westerners and 104 Asians, based on classification of their nationality (not their country of residence)
- 123 four and five star hotel guests 127 others (from guesthouses, other hotels and combinations of lodging styles, with friends and on cruise-ship)
- 166 educated to university level, postgraduate level or professional and 84 educated only at school or with vocational/technical training
- 90 who had visited Langkawi before and 160 who had not

(a) The means for each split are presented in appendix V (tables I and IV). Shading in the mean column represents 'means that differ by more than 1 rank between the two groups'.

(b) It is these shaded factors which were then statistically tested to see if the difference between the divisions was significant using the chi-squared test of independence. The frequency of an item being ranked between 1 and 3 (inclusive) was used to indicate

importance. The hypothesis posed suggested that tourists in each split choose to visit/enjoyed Langkawi for different reasons.

3. Testing whether the behaviour of choosing or enjoying Langkawi for ‘the natural reasons’ differs between the groups of tourists. The other shading on table I and III of Appendix V highlights the four natural factors that are relevant to ecotourism, ‘beaches and sea’, ‘marine park: islands and reefs’, ‘nature: rainforests and mangroves’ and ‘experience of another culture’. A tourist choosing/enjoying Langkawi for mostly natural factors has been defined as having 3 of the natural items in their top 4 ranked choices/experiences.

V.II.I.I. Choice:

1. Table V.I below shows the means and median ranks for the entire sample of tourists in order of preference. The four categories of ‘beaches and sea’, ‘marine park’, ‘nature’ and ‘culture’ rank 2nd – 5th respectably (based on means). The medians indicate a clear division between these items and the factors with medians of 6 or more. Overall it appears the sampled tourists did choose Langkawi for its natural attributes.

Table V.I. Means and Medians for the 250 tourists sampled (excl. 0s)		
	Choice	
	Mean	Median
Relaxation	2.013	1
Beaches and sea	2.301	2
Marine park: islands and reefs	3.847	4
Nature: rainforests and mangroves	4.530	4
Experience of another culture	4.539	4
Duty Free shopping	5.725	6
Attractions/Heritage sites	5.749	6
Sports: golf, tennis and watersports	6.268	6.5
Entertainment/Nightlife	7.095	8
Business Activity	9.094	10

2. (a) Table I. in appendix V. presents the mean and the median of the ranks for each of the ten factors for all four divisions decided above. Some interesting observations can be made from Table I in Appendix V, such as: beaches and sea are important to all the tourist’s choice, the marine park is more important to Asians, nature is more important to people who have not been to university and to those people who have visited

Langkawi before, and, experience of another culture is more important to Westerners and first time visitors.

(b) The chi-squared tests of independence, testing the items where the means have moved by more than one rank can be found in Table II in appendix V They test:

Ha: That the reasons for choosing to visit Langkawi are dependent on whether the tourist is in a certain division (e.g. Westerner v Asian).

All of the items tested, except 'Nature' (between those first time visitors and those that had been before) were significant but at differing significant levels. The highest and hence most significant chi-squared values were found when looking at the differences in the Western v Asian split, and the largest of all was with 'Experience of another culture' with Asians finding it less important (hardly surprising), the next largest was 'Duty Free shopping' with 'Attractions/Heritage sites' not far behind. The 'Marine park' difference was also significant. These three items were all more popular with the Asian sample than their Western counterparts. 'Duty Free shopping' was more important to those people who were not staying in four and five star accommodation (compared to those that were), more important to those with only school or vocational training (compared to the university graduates and professionals), and to those who had been to Langkawi before (compared to the first timers) (all at the 1% significance level). Duty Free was far the most volatile category. Some groups of people choose to visit Langkawi because of it, yet to others it is hardly relevant. 'Business activity' and 'Attractions/Heritage sites' were more important to those that had been to Langkawi before. Some of the four attributes are more likely to be found together e.g. 'Asian' tourists are more likely to have 'been to Langkawi before,' so the fact that shopping is significant to both groups is to be expected.

3. The Western v Asian division seems to differ the most in terms of the position of the shaded ecotourism in Table II (Appendix V). The possible significance of the Western/Asian split for influencing the choice of ecotourism is tested in Table III of Appendix V using a chi-squared test of independence. The result allows Ha to be accepted. Choosing Langkawi for mostly natural factors is dependent on whether the tourist is Western or Asian, but only at the 2.5% significance level.

V.II.I.II. Experience:

1. The table below shows the means and median ranks for the entire sample of tourists in order of preference. Like choice, the four natural categories rank 2nd – 5th respectably (based on means). The sampled tourists did experience and enjoy the natural attributes of Langkawi important for ecotourism.

Table V.II. Means and Medians for the 250 tourists sampled (excl. 0s)		
	Experience	
	Mean	Median
Relaxation	2.024	1
Beaches and sea	2.541	2
Marine park: islands and reefs	4.199	4
Experience of another culture	4.511	4
Nature: rainforests and mangroves	4.514	4
Duty Free shopping	5.293	6
Attractions/Heritage sites	5.622	5
Sports: golf, tennis and watersports	6.299	7
Entertainment/Nightlife	7.314	8
Business Activity	8.981	10

Table IV in appendix V presents the mean and the median of the ranks for each of the ten factors for all four divisions decided above. Most of the items that differ more than one rank between the two groups of tourists are the same as for choice. However there are some points of interest. Most notably: the school/vocational group enjoying Duty Free shopping more than the university/professional group, is not greater than one rank (it was with choice). Enjoying experiencing another culture is more important if it is the tourist’s first visit to Langkawi.

2. These tests can be found in table II. in appendix V. They test:

Ha: That the reasons for experiencing/enjoying Langkawi are dependent on whether the tourist is in a certain division

All the items tested do have significant differences. The difference between the enjoyment/experience of nature is significantly dependent on whether the tourist visiting Langkawi for the first time or is a repeat visitor. The repeat visitor enjoys it more. Again the items with the highest chi-squared values and hence significant at 0.5%, are the items tested between the Western and Asian division.

3. The Western v Asian division also seems to differ the most in terms of the position of the shaded ecotourism. The possible significance of the Western/Asian split for influencing the enjoyment of these natural factors is tested in Table VI of appendix V using a chi-squared test of independence. The result is not significant so H_0 cannot be rejected. Enjoying Langkawi for mostly natural factors is independent on whether the tourist is Western or Asian.

V.II.II. Comparing Choice and Experience:

The ranking between choice and most enjoyed experiences have been compared to see if factors are either more or less enjoyed than was expected when they chose Langkawi. The following method was used:

1. Each factor (e.g. sport) was assessed separately. If there was a zero in either the choice or experience column it was stripped out of both columns. This was to ensure a paired sample.
2. The difference between the choice and experience columns was calculated (experience minus choice).
3. The Wilcoxon Signed Rank Test for Large Samples (paired) was performed, which gave the Z values and p-values shown in Table V.III below:

H_a (two sided): the population differences are not centred at 0

H_a (one sided): the population differences are centred at > 0

H_a (one sided): the population differences are centred at < 0

Table V.III.	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10
Z value	0.84	3.29	0.30	1.12	-0.73	3.20	-3.10	-0.22	0.30	0.61
2 sided p-value	0.404	0.001	0.766	0.264	0.465	0.001	0.002	0.829	0.768	0.544
> 0 p-value	0.202	0.001	0.383	0.132	0.768	0.001	0.999	0.586	0.384	0.272
< 0 p-value	0.800	1.000	0.618	0.869	0.233	0.999	0.001	0.415	0.617	0.729

4. When the p-value is $> 0.05(\alpha)$ H_0 cannot be rejected
5. 3 factors can have an H_a accepted. For D2 ‘Marine park: islands and reefs’ and D6 ‘Beaches and sea’ population differences are centred at > 0 . For D7 ‘Duty Free shopping’ population differences are centred at < 0 .
6. The marine park: islands and reefs, and, the beaches and sea, are enjoyed less than was expected when tourists chose Langkawi as a destination. Duty Free shopping is more enjoyed than was expected.

To establish why these three factors differ significantly between what was expected when choosing the destination and what was actually enjoyed and experienced the optional comments made by tourists about the quality of their experiences are used. This is also reinforced by knowledge and experience obtained from living on the island for ten weeks and the informal interviews.

a) Why does the marine park (D2) ‘disappoint’ the tourists?

The number of visitors to Pulau Payar far exceeds its carrying capacity. The overcrowding can be seen in fig.V.X. below. The number of visitors recorded in 1993 was 12,025 and in 1996 was 90,307. In the year 2001, the number increased to a record of 125,850 (Ramli et al., 2002). An EIA for Pulau Payar considered the carrying capacity to be around 25,000 (a point raised at Sustainable Utilization conference 16th July 2002).



Fig.V.X. Part of a flyer advertising Pulau Payar showing the overcrowding

Dr Zulfigar Yasin of Universiti Sains Malaysia has observed coral bleaching since March 1995 indicating a reef under stress. He believes Pulau Payar to be traumatised by an influx of tourists. Water quality monitoring which he conducted in November 1995 with the Fisheries Research Institute supports this view. They found high amounts of phosphate and nitrate in the areas where the corals had bleached. Nitrates indicate the presence of raw sewage and urea, while phosphates originate from sources including soap and detergent. When coral polyps come into contact with toxins or pollutants, they go into self-defence by emitting a layer of mucus to wash off the toxins. As a result,

corals are weakened and have less energy for growing or reproducing. The toilets on the island only have a septic tank and this has been found at various times to have leaked. The toilets are flushed with salt water. Increased salinity in the septic tank obstructs the natural sewage degradation process worsening the situation. The large numbers of boats contribute oil pollution from discharges of bilge and water from the engine cooling systems. Also fish-feeding is promoted as a key attraction and is not controlled. Both quality and quantity of food fed to the fish and juvenile sharks are not monitored. The impacts of fish health, natural aggressions, natural predatory behaviour and prey have never been studied (Cheng Li, 1996).

The fact that the experience was less highly ranked by tourists than the rank they gave it as a reason for choosing Langkawi, may indicate dissatisfaction. It seems the visitors are noticing the overcrowding and the visible signs of a stressed reef. This issue should not be ignored any longer or the asset of the Marine Park to Langkawi may be lost.

b) Why do the beaches and sea (D6) ‘disappoint’ the tourists?

There were many comments from tourists about rubbish on the beach and some about the clarity of the water. The serious litter problem on the islands has already been discussed p37-38.

“Advertising water as “clear” is not accurate”

Australian staying at AB Motel, 1st time to Langkawi

Unfortunately because of the rapid speed of development, extensive land reclamation projects and tides that don’t disperse the sediment, Langkawi’s water is in the most part not crystal clear.

c) Why does Duty Free shopping (D7) ‘exceed expectations’?

Many of the Westerners were not expecting to find much shopping so are pleasantly surprised by what is on offer. The only comments made about Duty Free shopping were from Asians mentioning that it was not as cheap as they were expecting.

“Duty free in name but not in substance. Prices are relatively higher than those states which do not enjoy duty free status” Malaysian tourist staying at City Bayview, 1st time to Langkawi. However a chi squared to see if there is a difference between the

movement in ranking from choice to experience of Westerners and Asians (for Duty Free shopping) showed within these samples that there is no significant association.

Ha: That the difference between choice and experience of Duty Free shopping in Langkawi is dependent on whether the tourist is Western or Asian.

Table V.IV.	Westerners	Asians	Total
Up > 1	25	9	34
Up 1	14	9	23
Same	47	41	88
Down 1	5	8	13
Down >1	11	4	15
Total	102	71	173
(Chi-squared = 8.25, df = 4, NS)			

Ho cannot be rejected. The difference between choice and experience of Duty Free shopping in Langkawi is independent of whether the tourist is Western or Asian.

V.II.IV. Westerners Vs Asians

Back on p63 and p65 the Western/Asian split showed up the most significant differences in both the reasons for (a) choosing and (b) enjoying Langkawi. To ascertain if Westerners and Asians are altering their ranks between their reasons for choosing Langkawi and their experiences on the island the following method was devised.

1. The data was separated on the basis of nationality classification between Asians and Westerns. If an individual tourist had left an item unranked in either the choice or experience column, that tourist's data was stripped out for that item, as it was necessary for their to be a matched pair (before and after).
2. The difference between each pair of raw data was calculated.
3. The mean of the differences for both groups of tourists for each factor was calculated.
4. A Mann-Whitney U test was then conducted on the mean differences; see table V.V (the method was followed in Kvanli et al., 2000).

Ha: that the change from choice (before) to experience (after) is different between Asians and Westerners

Table V.V.	Western Diff		Asian Diff	
	Difference	Rank	Difference	Rank

Sports: golf, tennis and watersports	0.227	16	-0.206	3
Marine park: islands and reefs	0.547	20	0.289	17
Nature: rainforests and mangroves	0.046	12	0.044	11
Entertainment/Nightlife	0.467	19	0.015	10
Experience of another culture	-0.034	8	-0.071	6
Beaches and sea	0.352	18	0.114	13
Duty Free shopping	-0.490	1	-0.141	4
Attractions/Heritage sites	-0.301	2	0.200	15
Business Activity	-0.065	7	0.015	9
Relaxation	-0.083	5	0.141	14
		108		102

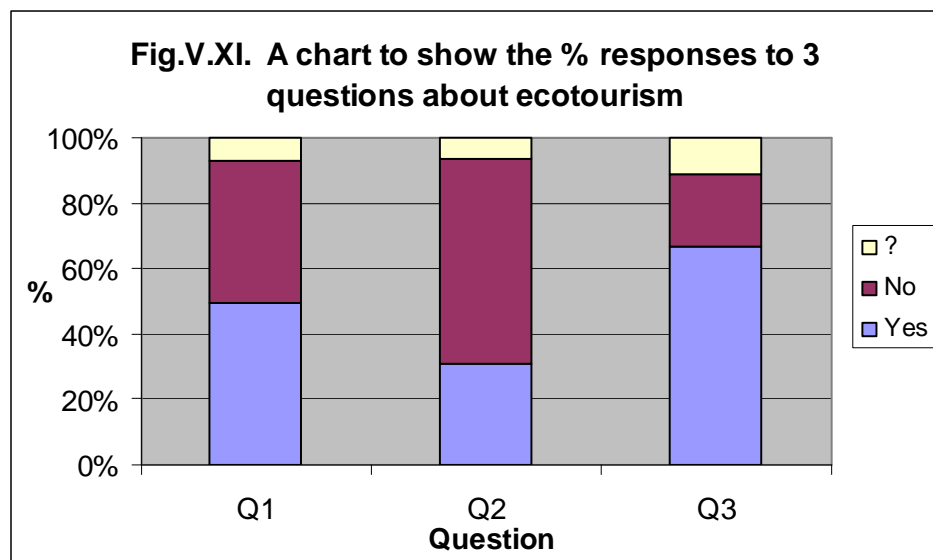
$$u_1 = 47, u_2 = 53, \alpha = 0.05/2 = 0.025$$

0.4267 > 0.025 so cannot reject H_0 , and so the change from choice (before) to experience (after) is not different between Asians and Westerners.

V.II.V. Ecotourism questions

The three questions asked directly about ecotourism were

1. Do you consider that your holiday here in Langkawi includes any ecotourism?
If they answered YES they were asked to specify which parts of their holiday have involved ecotourism.
2. Have you ever been on an ecotourism holiday?
3. Would you like to go on an ecotourism holiday?



Interestingly fig.V.XI shows that 49.6% thought their holiday in Langkawi involved *some* ecotourism [although a lot specified activities that are not true ecotourism (see

later)] and 66.8% would like to go on an ecotourism holiday. (Note: Although there is ecotourism on Langkawi, currently it would be difficult to enjoy an entire ecotourism holiday).

This means in the sample of 250 tourists, there is a gap of 17.2% between the 66.8% who are *demanding* ecotourism and the 49.6% who feel Langkawi (rightly or wrongly) has *supplied* some ecotourism.

This suggests there is more *demand* to be tapped. But it is this additional 17.2% that are the most discerning. They were answering No to the first question because they were probably adopting a very tight definition of ecotourism. To win this 17.2% the ecotourism offered has got to fit well within the IES definition of “*ecotourism as responsible travel to natural areas that conserves the environment and sustains the well being of the local people,*” (UNEP, 2002).

Ecotourism is a growing market and this is also shown by this sample; more people want to go on an ecotourism holiday than have been on one already. The main issue in an emerging market is uncertainty. [If the same question had been asked of ‘a city break,’ the answer to question 2 would have been very high and the answer to question 3 either about the same or possibly slightly less. This pattern would indicate a mature market which is not exhibiting fast growth rates where the main issue is high competitive rivalry].

There is considerable confusion amongst the public about the term ecotourism. The answers specifying which parts of their holiday involved ecotourism showed up this confusion. Table V.VI includes some of the answers people gave, and is to illustrate the subtle distinction between what is and what is not ecotourism in Langkawi.

Table V.VI. Tourist’s answers and explanations for whether or not they fit the definition of ecotourism

CORRECT	INCORRECT
<p>Tourist guide giving explanations</p> <p>It is not enough just to be shown a rainforest or a mangrove. The visitor needs it to be interpreted and explained to them. Good ecotourism should teach and inspire. This enables travellers to gain new insight into natural processes and become more aware of ecosystem services and overall value (Gossling, 1999).</p>	<p>Underwater World</p> <p>This is not a natural area, it is a man made aquarium and profits do not go directly to local people or ecosystem conservation. There are some educational displays but surprisingly there are no educational books about fish or reefs on sale here.</p>
<p>Not feeding monkeys / disturbing nature</p> <p>Disturbances and feeding change the animal’s way of life and may increase its dependence or expose it to dangers, such as from cars. Whether feeding is morally wrong is debated, but it is not ecotourism. It does not conserve the environment it alters it.</p>	<p>Eagle feeding</p> <p>Young eagles now do not know how to hunt as they rely on the mangrove tours. Throwing them chicken guts is changing their natural diet and one contaminated bucket (with a disease like bird cholera) could wipe out a large proportion of Langkawi’s eagle population.</p>
<p>Travel to the smaller islands will involve taking only pictures and leaving only footprints</p> <p>By not taking souvenirs such as coral and not leaving litter behind, the tourist is behaving responsibly, (a characteristic of ecotourism).</p>	<p>Trip to Pulau Payar</p> <p>If this marine park’s visitor numbers were under the carrying capacity it could be ecotourism. With the current visitor levels it is not sustainable and hence nature tourism but not ecotourism.</p>

<p>Cycling to Seven Wells</p> <p>This is ‘responsible travel’ as a bicycle uses no fuel and creates no emissions. The Seven Wells waterfall is a ‘natural area.’ If the cyclist hired the bike from a local shop or stopped at a roadside stall for food they would also be ‘sustaining the well being of the local people.’</p>	<p>A picnic at the Seven Wells waterfall</p> <p>This should be ecotourism but unfortunately those picnicking at the Seven Wells do not seem to be practicing ‘responsible travel’ as their picnic litter is left abandoned there.</p>
<p>Local lodging and food</p> <p>Local food and lodging gives the profits directly to the local people and prevents the tourist’s spending leaking out of the economy (which would occur if the tourist ate imported food). This ‘sustains the well being of the local people.’</p>	<p>Energy saving electrical supply in hotel room</p> <p>This is a good practice would probably be classified within sustainable tourism. It is not about travel to ‘natural areas’ and is consequently not ecotourism.</p>

V.II.VI. Current Practices

V.II.VI.I. Tours

The hotels and guesthouses on Langkawi book various excursions for their guests. In the survey they were asked which they regularly book. This shows what tours are currently being supplied and demanded by Langkawi’s tourists. Most of the tours are nature based but only a very few operators run ecotourism tours fitting the International Ecotourism Society definition (see p11 in Background).

Fig.V.XII. The number of hotels and guesthouse (out of the sample of 51) that regularly book various tours

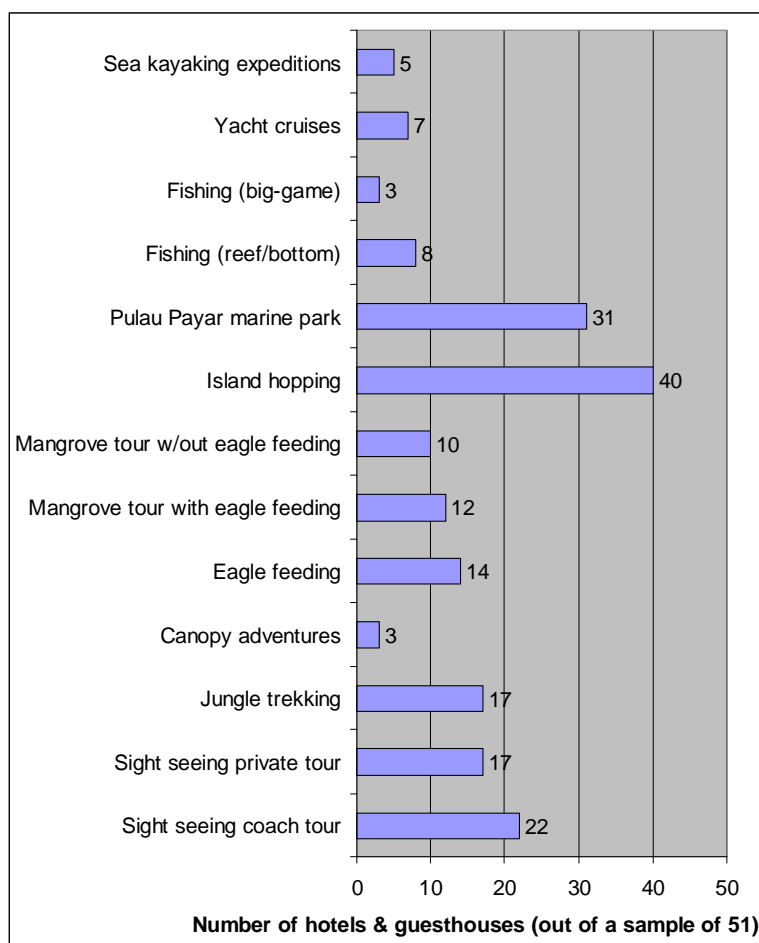


Fig.V.XII. shows that the top 4 most regularly booked tours by hotels and guesthouses are:

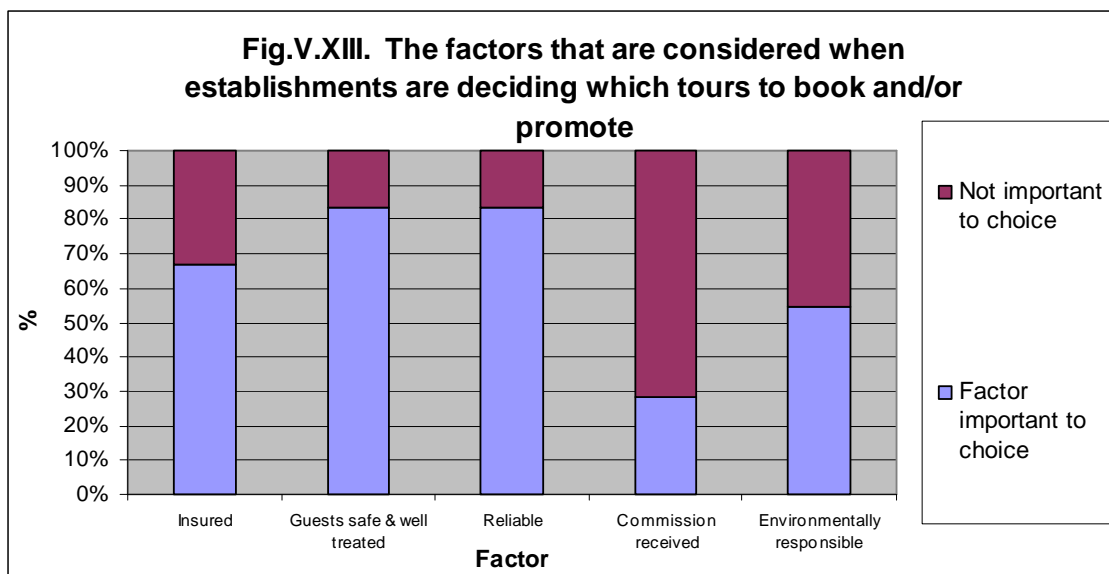
1. Island Hopping: It is a 4-5 hour trip that visits 3 nearby islands: Pulau Singa, Pulau Beras Basah and Palau Dayang Bunting (Naidu, 2002). It is also the cheapest boat tour.
2. Pulau Payar marine park: The Payar islands are an hour and 15 minute boat trip away, this day trip is for snorkelling and/or diving.
3. Sight seeing coach

tour: These tours generally visit the LADA built attractions, they always stop at the Underwater World (aquarium) and the Galeria Perdana (where all the gifts that have been given to the Prime Minister are displayed). There are shopping stops at the privately owned Langkawi Crystal and/or Atma Alam Batik Village and/or the Langkawi Fair Shopping Mall.

4. Mangrove tour with or without eagle feeding: There are actually 20 hotels or guesthouses that book either eagle feeding, the mangrove and cave tour with eagle feeding or the same tour without. [The graph attempts to separate out these elements but some establishments for example said they sometimes do eagle feeding and sometimes do not (ticking two columns) or always do it (ticking both eagle feeding separately and together with the tour). This makes the sum of these three columns in the graph come to more than 20.]

Interestingly 3 out of the top 4 tours involve nature tourism and 1 is attractions and shopping focused. Most of the island hopping and Pulau Payar trips are run as mass tourism, with the prices low and the aim of catering to the most visitors possible.

The establishments were also asked how they chose which tour operators to use. 45 hotels book tours for their guests and of these 42 answered this question and their responses are illustrated in fig.V.XIII below.



Whether receiving commission is really as unimportant as the establishments wished to make out is debatable. 30 of the 45 establishments that booked tours (67%) received commission from these bookings. 55% (of the 42 establishments answering the question about their choice of tour operator) were interested in whether the tour operator was environmentally responsible. Although what is perhaps more telling is that whether the tour operators are insured, the guests are safe and well treated and the tour operators are reliable are all more important issues for the establishments. Also some of the comments given regarding how they consider the environmental impact of the tours they book and/or promote indicated a lack of rigour. For example several establishments judged the environmental impact on whether the guests were happy, making comments like *‘They [guests] found Langkawi is a nice place to explore’*. There were other places including some guesthouses which had a fair to good understanding. One small family guesthouse outside the main tourist belt almost got the idea, commenting *‘ [Regarding] Shark feeding on Pulau Payar - encourage guests not to feed meat as sharks may bite instead bread is used - guests are told not to collect coral.’* One particularly well informed guesthouse manager wrote *‘By not promoting*

tours or excursions that have direct contact with wildlife or have effect on their feeding/living habitats because of the long term effect on the wildlife. Interpretative tours are very important for education and information and should be introduced in ALL tours.' There is a wide range in the level of understanding of these matters. Providing easily understood information about the effects on nature to all the establishments and especially to some of the smaller less aware guesthouses should be a priority.

Hotels and guesthouses were asked directly whether they would choose to promote tours which were less environmentally damaging if they had more information. From the sample of 51: 30 hotel/guesthouses said yes, 13 were unsure, and, 8 said no. 59% welcomed more information. In the future it would be a positive development if tours could be certified or vetted to meet stringent environmental conditions and the establishments informed of which tours met these conditions. Then the best practices would become more demanded and hence more prevalent.

V.II.VI.II. Education

Education of the tourists is an essential element of ecotourism. This is explained by Alice Crabtree (ecotourism consultant and vice-president of the Ecotourism Association of Australia) in her speech at the World Ecotourism Conference in 1999 *"it's not enough to take visitors to special places or special cultures, you need guides who can get them involved in what they're seeing or experiencing, explain it thoroughly and accurately, and keep them entertained"* (Borneo Eco Tours, 1999). The more information being supplied about Langkawi's nature, the more respect tourists acquire for the island's environment the more they will demand practices that preserve it. *"The guided mangrove tour was the most fun and exciting. The tour was informative, an unforgettable experience"* (Malaysian staying at Awana Porto Mali, 2nd visit to Langkawi). This comment reveals that tourists like the "insightful" approach.

The supply of information must be subtle though, as Alice Crabtree went on to say *"people go to school to learn but they go on holidays to have fun. They have to get involved, feel, experience, enjoy—and then the enthusiasm and understanding will come"* (Borneo Eco Tours, 1999). 43% of the sampled hotels and guesthouses claimed

to make some effort at educating their guests about the natural Langkawi (35% did not make any efforts and 22% gave no response to this question). Currently 3 hotels in Langkawi have full-time naturalists who offer a complimentary interpretive nature walks for their guests. This approach seems to be well received as the tourists made favourable comments on the questionnaires: *“Excellent service provided by the Naturalist in the hotel. Tour is provided for free, very insightful into rainforest & nature – Highlight!”* (Australian staying at the Datai, 1st time to Langkawi). A few other hotels have access to a naturalist. (An exact % has not been given as this question was commonly misunderstood, with small guesthouses saying they have a naturalist when general fieldwork knowledge expects this not to be the case). 29% of the sampled hotels and guesthouses sell books such as “Nature Guide Langkawi” which at least gives their guests an opportunity to learn about the island’s environment if they are interested. 2 hotels have either their own nature book (which is put “free” in all guests’ rooms) or a wildlife brochure. At least one hotel has signs placed around the resort explaining animals, flora & fauna, at least two hotels involve their guests in tree planting on special occasions (like environment day) and at least one hotel puts US\$1 per guest on each hotel room bill for a nature fund. On a negative note, a couple of hotels/guesthouses confused the idea of giving advertising flyers about nature based tours with education.

V.III. THE LOCAL ECONOMY AND ECOTOURISM

The hotel survey ascertains who owns the hotels and guesthouses on the island and hence detects the beneficiaries who keep the profits. The survey also establishes which types of tourist accommodation are opening now and hence which sorts of owners are favoured by the current political and economic policies and systems. The tourist survey establishes how different kinds of tourists spend their money on holiday. All these results challenge the assumption that luxury tourism is best for the people of Langkawi.

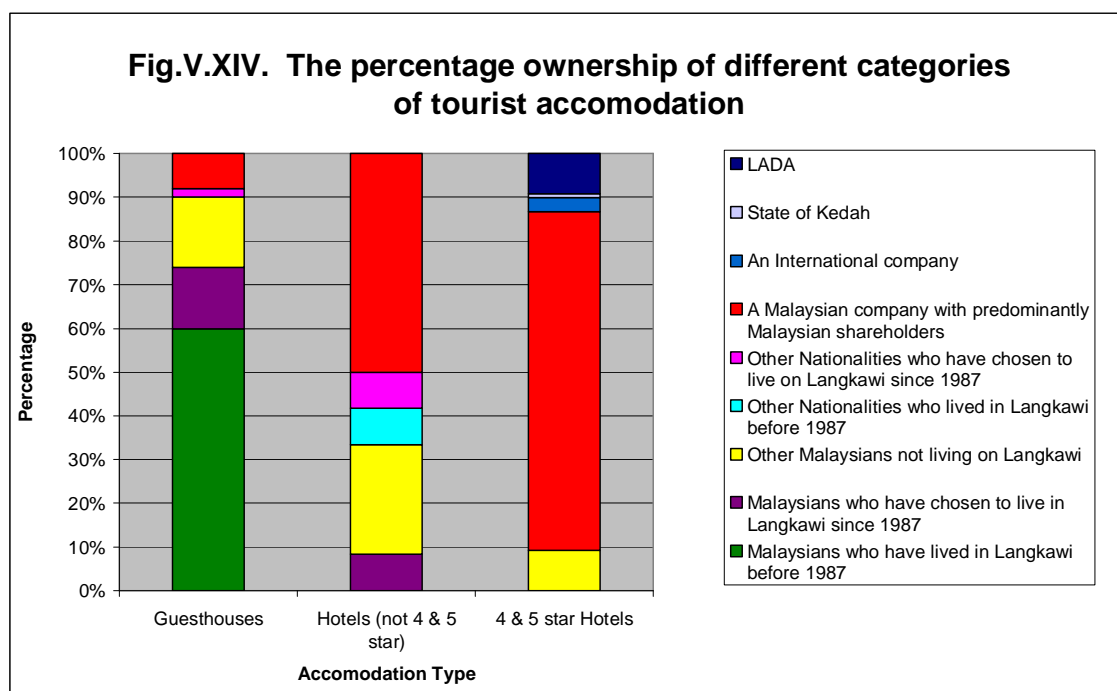
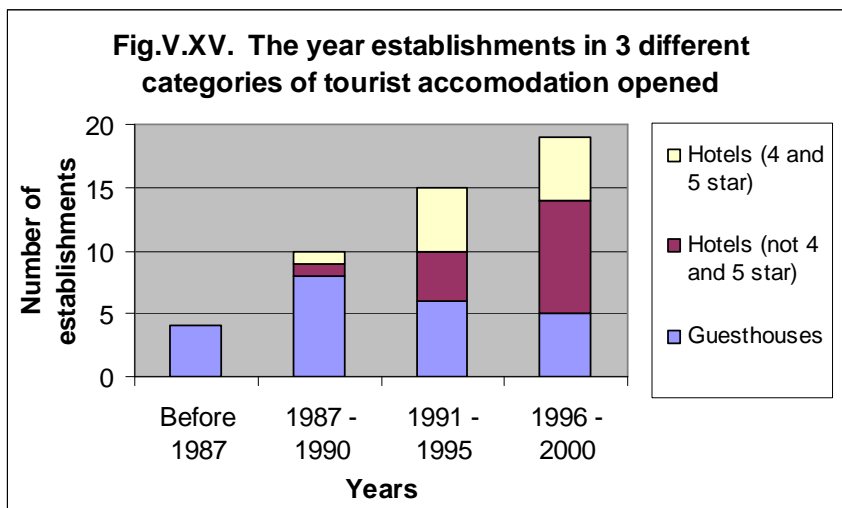


Fig.V.XIV above shows that 60% of the profit from guesthouses goes to Malaysians living in Langkawi before it was given Duty Free status (1987) and another 14% goes to Malaysians who have chosen to live in Langkawi since 1987. Contrast this to the hotels (both columns) have little or no ownership by Malaysians who lived in Langkawi before 1987. Mostly these hotels are owned by Malaysian companies. Big hotel developments benefit shareholders in places like KL. These shareholders may be Malaysian but is of limited value for the ‘development’ of Langkawi if the profit leaks outside the island. If the indigenous Langkawi population is going to benefit from tourism, guesthouses must be encouraged and not replaced by large exclusive resorts. It is crucial that these local people do not feel resentment and are not priced out of living on their own island.

In 1989 there were 11 chalets and 2 hostels that provided a total of 181 rooms (Tenku Hadi, 1996). Now in 2002 Langkawi has 35 hotels and about 39 guesthouses providing 6000 hotel rooms. The hotel survey identified the opening pattern of the 51 establishments surveyed and this information is presented on fig.V.XV.



There were only guesthouses prior to the duty free status being granted in 1987. Immediately after 1987, mostly guesthouses were opened possibly because of the

smaller capital outlay required. In 1990 LADA was established to create investment opportunities and preside over the development of the island. After that date, hotel openings spiralled (especially non 4 and 5 star establishments between 1996 and 2000) but the rate of guesthouses opening fell. The necessary political and economic conditions do not seem to be provided by the authorities to encourage locally owned guesthouse businesses to open.

V.III.I. Where is the money from tourism being spent?

The tourist questionnaire asked the respondents to record how they spend their money on one day –‘yesterday’. They were also asked how many people this expenditure was for. In total RM196,516 was spent by 561 people (giving the children equal weight to an adult), an average of RM350 per day.

The tourists attributed their spending to various categories, some of which represented spending in the local economy and some of which was spending that was likely to have high leakage. The local items are 3, 4, 7, 8 and 9, and, the non-local items are 5 and 6 from question F (see Appendix I). The ‘Hotel daily rate’ and the ‘hotel bill’ categories received a more complicated treatment. These categories had the % ownership by Malaysians living on Langkawi (see fig.V.XIV) applied to them. These were 74% for guesthouses, 8.33% for hotels (not 4 and 5 star) and 0% for 4 and 5 star hotels.

Table V.VII	No. people represented by the spending	
	Adults	Children (under 16s)
Guesthouses	110	21
Hotels (not 4 and 5 star)	132	29
Hotels (4 and 5 star)	228	41
	Ave RM spending per day (under 16s as 0.5)	Ave RM spending in local economy per day
Guesthouses	129	91 (71%)
Hotels (not 4 and 5 star)	351	158 (45%)
Hotels (4 and 5 star)	521	91 (17%)
	Ave RM spending per day (under 16s as 1.0)	Ave RM spending in local economy per day
Guesthouses	119	84 (71%)
Hotels (not 4 and 5 star)	319	144 (45%)
Hotels (4 and 5 star)	482	84 (17%)
	Ave RM spending per day (under 16s as 1.5)	Ave RM spending in local economy per day
Guesthouses	110	78 (71%)
Hotels (not 4 and 5 star)	293	132 (45%)
Hotels (4 and 5 star)	448	78 (17%)

Table V.VII above, shows the average RM spending per day and the average RM spending in the local economy per day under three different treatments for the children under 16. It is hard to establish what weighting should be given to a child relative to an adult as there are arguments for them being both more and less expensive.

These results suggest that in the sample tourists in guesthouses and 4 and 5 star hotels were spending very similar amounts of money directly into the local economy. The tourists who spent the most in the local economy were the mid-range hotel guests. Luxury tourism does not give the most money directly to the local economy per capita.

In fact guests at luxury hotels and guesthouses produce a similar contribution. This occurs because tourists at the top hotels rarely leave the confines of their resort, this is called ‘enclave tourism.’ When this happens less opportunity is left for local people to profit from tourism (UNEP, 2002). This phenomenon is summed up by one tourist (from questionnaire): “*One thing that has been lacking is contact with local areas. The Datai is set back away from populated areas so emphasis is on the rainforest rather than local culture. It is easy to go on trips to town, just not overly convenient to pop out for supper.*” British tourist staying at The Datai, 1st time to Langkawi.

The next table V.VIII, shows the breakdown of this daily spending per person for each of the three categories. The % applied to the daily hotel room rate and items put on the hotel bill, is the % ownership by Malaysians living on Langkawi (pre and post 1987).

Table V.VIII	
Average daily spending in local economy	
	RM
Guesthouses	
Hotel room & items on hotel bill (74%)	35
Local tour operators/agencies	14
Local shops & businesses	21
Local restaurants	18
Stalls, markets & independents	3
	91
Hotels (not 4 and 5 star)	
Hotel room & items on hotel bill (8.3%)	9
Local tour operators/agencies	18
Tips to tour guides or hotel staff directly	3
Local shops & businesses	80
Local restaurants	39
Stalls, markets & independents	9
	158
Hotels (4 and 5 star)	
Hotel room & items on hotel bill (0%)	0
Local tour operator/agencies	20
Tips to tour guides or hotel staff directly	6
Local shops & businesses	31
Local restaurants	27
Stalls, markets & independents	7
	91

Key differences:

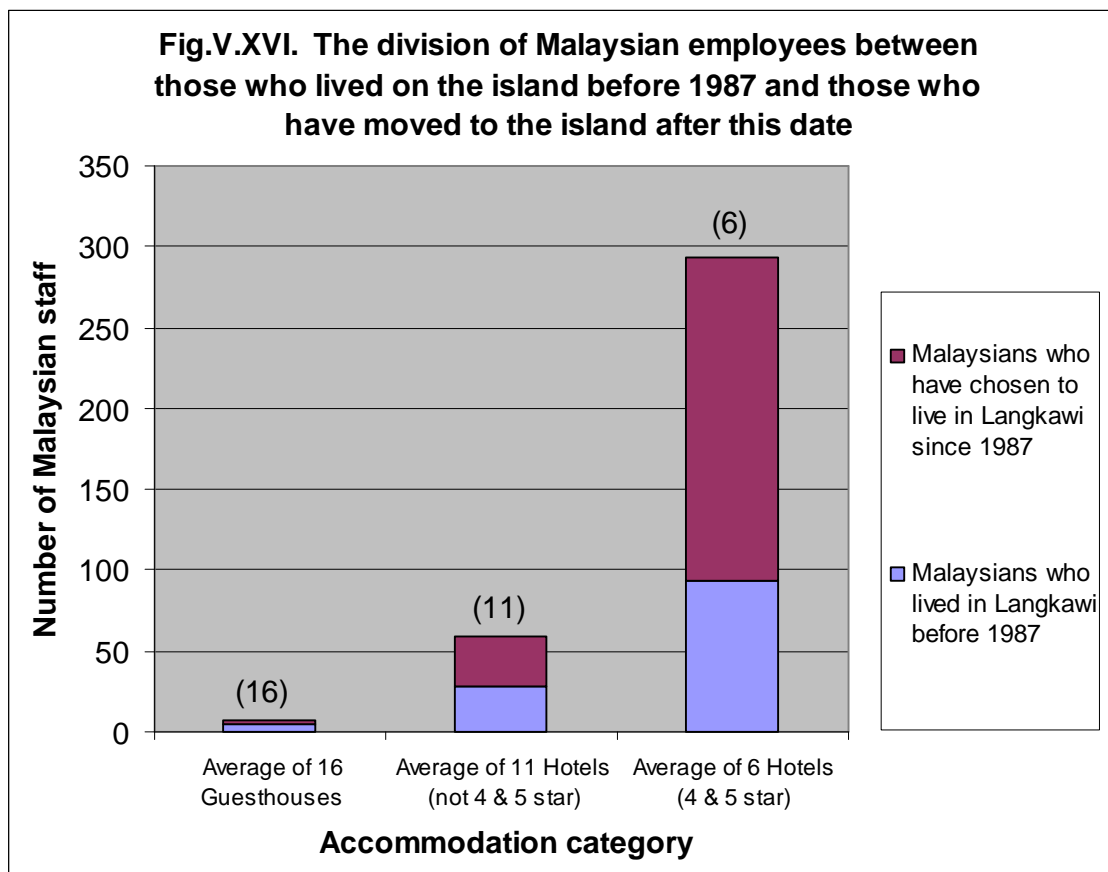
(a) By staying in a guesthouse most of the money spent on accommodation and put on the hotel bill goes directly into the local community.

(b) By staying in a hotel (not 4 or 5 star) tourists spend more money in local shops and businesses than their counterparts in both guesthouses and the top hotels. This may be because these hotels are generally more central than their 4 and 5 star counterparts and do not offer facilities such as hotel shops and spas. The tourist will therefore be more inclined to spend money in the local community.

There are of course jobs created in big hotels and local goods purchased by them.

Table V.IX Staff employed by the establishment	22 Guesthouses		14 Hotels (not 4 & 5 star)		10 Hotels (4 & 5 star)	
	No	%	No	%	No	%
Malaysians living in Langkawi	170	98.8	717	88.8	2657	89.9
Other nationalities who lived in Langkawi before 1987	0	0.0	35	4.3	0	0.0
Other nationalities who have chosen to live in Langkawi since 1987	2	1.2	19	2.4	223	7.5
Work placements for students from tourism schools in Malaysia	0	0.0	21	2.6	66	2.2
Work placements for students from tourism schools outside Malaysia	0	0.0	15	1.9	11	0.4
Total employees for accommodation						
Category	172		807		2957	
Average number of staff per Establishment	7.8		57.6		295.7	

Unquestionably, from looking at table V.IX above, the two categories of hotels are creating substantial employment opportunities and around 89% of these (in both hotel columns) are taken by Malaysians living in Langkawi. A few hotels and guesthouses were able to break this category down further into Malaysians living in Langkawi before 1987 and those who moved to the island after the duty free status was granted (in 1987).



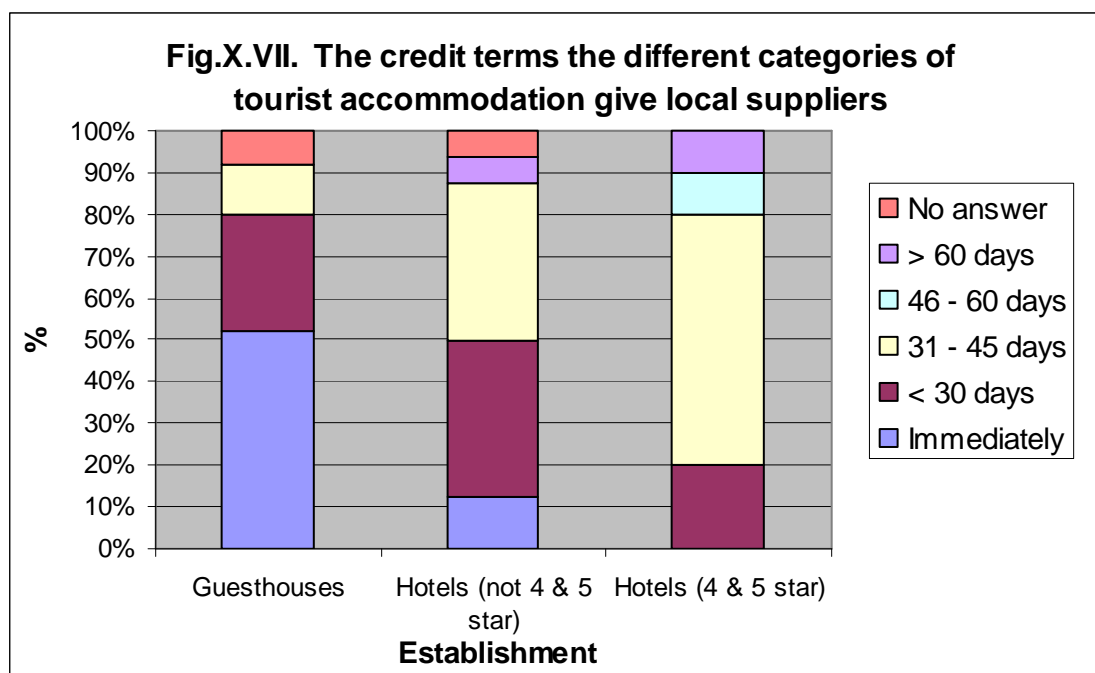
This sample shows that of the Malaysian staff employed, the minority lived in Langkawi before 1987. The percentages are shown in table V.X below:

Table V.X	Malaysians who lived in Langkawi before 1987
Guesthouses	73%
Hotels (not 4 & 5 star)	46%
Hotels (4 & 5 star)	32%

Although in terms of numbers, more Malaysian jobs are created by hotels, they tend to employ a higher percentage of

Malaysians from the mainland who have the necessary training and experience to work in this industry. This is understandable if they cannot find suitable staff amongst the local population. The Structure Plan 1990 – 2005 has so far failed to deliver the promised skills training institute intending to increase bumiputera (Malay race) participation in tourism and other economic activities (LDC, 1992). However private colleges have opened, Kolej Lagenda ironically utilising the unsuccessful Sri Lagenda Resort Condominium and use the failed Delima Resort [under the Universiti Teknologi Malaysia franchise] (WTW, 2000).

The hotels do buy local goods and services although it is hard to quantify how much is spent on foreign goods and services (leakage). The hotel survey question asking what credit terms each establishment gives local suppliers, did highlight the differential treatment of suppliers by the different types of business. (Where establishments gave a range of credit terms the longest was used for preparing fig.V.VII below).

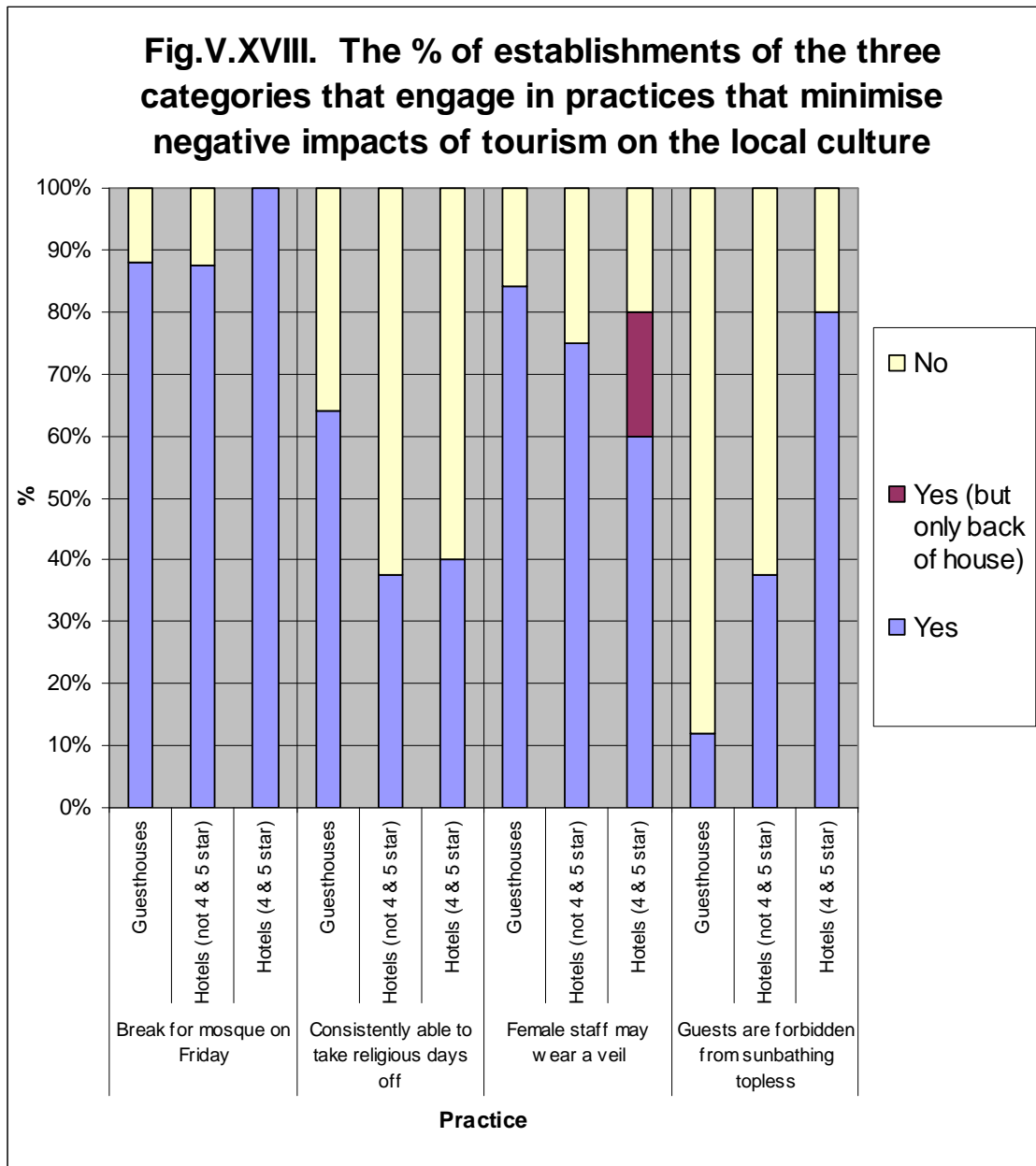


It seems the larger hotels take much longer to pay the local suppliers than the guesthouses. 52% of the guesthouses pay in cash immediately. While local businesses do supply hotels and guesthouses, they are less powerful than the large hotels. A small local supplier would soon struggle with working capital management if they were not paid quickly.

Hotel staff also spend their money in the local economy. Staff from the top hotels may develop tastes for the international standard goods and sometimes socialise in other large hotels. They may spend proportionally less with the small local businesses. Conversations revealed that staff from other nationalities and from tourism schools outside Malaysia seemed more inclined to save their money and send it home to their relatives. Compared to Indonesia, the Philippines and Thailand, the Malaysian economy is strong so it makes rational economic sense to save in Malaysia to spend in these countries.

V.III.II. Social aspects

The hotel survey attempts to ascertain whether the hotels and guesthouse put in place any practices to try to prevent the erosion of local culture and that working conditions are sensitive to cultural traditions. The results are shown in fig.V.XVIII:



It seems that nearly 90% of staff in all establishments can break for mosque on Friday, although those working in hotels may have more of a problem if they consistently want to take Friday (or other religious days) off. The issue of wearing a veil is more complex. The concern being addressed by the hotel survey was whether the choice of wearing a veil or not, was being denied for some hotel staff in working hours. The veil

is thought to alienate Western guests, so front of house staff, especially those working in the top hotels, are not meant to wear one. Yet, Western guests ranked 'experiencing another culture' 3rd (based on means) in contributing to their choice of Langkawi as a holiday destination. This requirement may be a barrier to local women getting the better hotel jobs, as they may not be willing to work without wearing a veil.

It seems from the bar chart that the issue of sunbathing topless is tackled by the top hotels but either is not a problem in the others or is not an issue tackled by the management. Hotels with their own private beaches have the legitimacy to enforce this rule amongst their guests. It is much harder for those establishments on the public beach. One guesthouse mentioned on the survey that they banned alcohol on the premises as having alcohol on their land would deem it unclean. Notices were observed at some other guesthouses and smaller hotels also banning alcohol, although they neglected to mention it in the survey.

VI. DISCUSSION AND RECOMMENDATIONS

This chapter draws out 30 key recommendations for Langkawi from the results and analysis. It then provides a practical discussion focusing on improvements to the research and further research ideas before moving to the bigger picture and assesses the significance of this research project.

VI.I. RECOMMENDATIONS:

As the problems are widespread globally this research has a broader relevance for highlighting potential cumulative implications for tourism worldwide. Some of the recommendations for Langkawi are also applicable to other destinations, especially those similar to Langkawi, such as the Malaysian east coast island of Tioman. There were five bills passed in June 2002 to accord Tioman with Duty Free status (Langkawi acquired its Duty Free status on 1st January 1987) (The Star, 2002a). Tioman is also designated for intensive tourism development and currently the Malay Chambers of Commerce is looking for ways to ensure local businesses get an opportunity to benefit from the expected boom (The Star, 2002c). The recommendations are also more applicable to the other islands and coastal areas that also fall into Marine Ecoregion No. 225. 'The Andaman Sea' (belonging to India, Myanmar, Thailand, Malaysia and Indonesia), see fig.III.V on p28 which was designated a WWF Global 200 site in 1999 (Oon & Salam, 2002) and which face similar threats to Langkawi from exploitation of the mangroves for charcoal, agriculture and aquaculture, and, the development of tourism and recreational activities (WWF, 2002).

VI.I.I. Sustainable Tourism:

VI.I.I.I. Water and Electricity:

1. Information exchange between the establishments about some of the more unusual energy and water saving ideas might enable further efficiency gains to be made which would help both the environment and businesses profitability.

2. LADA or the Tourism Association should educate hotels and guesthouses about the benefits of adopting more energy and water saving measures. They should concentrate most on the large hotels as electricity consumption varies far more amongst hotels with a large number of rooms than the smaller establishments. More work needs to be done to establish if this is true for the other utilities. There would be a powerful message if examples were used from hotels in Langkawi which have made significant cost savings from adopting such initiatives.

VI.I.I.II. Rubbish:

3. Instigate an integrated recycling strategy at the Local Authority level. This should be a priority before frustration turns to apathy and establishments are no longer willing to make the effort to separate their waste.

VI.I.I.III. Sewage:

LADA have planned 3 new treatment plants for Langkawi which will eventually be connected to establishments and homes. The 3 plants will be in Kuah, Pantai Cenang and Padang Matsirat. The Kuah plant is already constructed and will hopefully begin operating in the near future. Land is being found and plans made for the other 2 plants (Aishah Binti Abdullah, personal communication, June 2002). Hopefully this very necessary infrastructure will soon be in place to ensure that raw sewage going directly into the rivers and sea is a phenomenon of the past.

VI.I.I.IV. Litter:

Littering is seen frequently, even middle class educated Malays litter, and tourists notice. One Austrian tourist wrote on the questionnaire *“illegal dumping of rubbish was watched very often along roads, in forests, in rivers and also at waterfalls and on trails.”* This has become an unacceptable habit among the local population of Langkawi. One tourist remarked verbally that it is the European’s fault for bringing plastic here; certainly the Malaysians seem to treat plastic waste as if it were biodegradable by either dropping it wherever or by attempting to burn it. Clearly

education sensitive to the prevailing Malay value system is of paramount importance in getting to the root cause of the rubbish problem. Fortunately there are some positive Malay traditional norms such as the practice of gotong-royong. This tradition originated in the kampungs (villages) where villagers all come together to help one another on occasions such as weddings, funerals, harvesting padi rice as well as community projects such as cleaning up the village (Bird, 1989). This tradition can be used in tourist resorts for 'clean-ups.' For example, the staff working at one luxury hotel organise a gotong-royong every two weeks to clean the stretch of roadside from the hotel to the nearby golf course.

Beaches are the second most important reason (after relaxation) why the 250 tourists sampled choose and enjoy Langkawi (p62). Since the beaches are crucial to tourists, they must be well maintained. Langkawi cannot afford to have guests dissatisfied by something which could easily be managed better. This must include the public beaches as well as those private beaches managed by some of the more exclusive hotels.

4. Ensure constant daily beach cleaning of public beaches by MDL.
5. Set up MDL rubbish collecting boats to go regularly around the smaller islands clearing debris from their coastlines and beaches.
6. Manage Langkawi's beaches better and then apply for Blue Flag beach certification (see Literature Review p17). Having this status would be useful in Langkawi and other parts of Malaysia for installing local pride in their beaches and encouraging them to put effort into looking after them. Visitors may be drawn to visit Langkawi because they would have beaches certified as being of a high standard.
7. Run an education campaign about rubbish for the local residents, concentrating on schoolchildren and encouraging them to educate and reform their parents. The campaign should be targeted at building on positive practices already in place for removing rubbish such as gotong royong to try and encourage people to not only tidy their villages but also the streets and beaches.

8. More hotels to implement gotong-royong's to clean nearby areas.

VI.I.I.V. Recreation (Golf):

The Datai Bay golf course has plans to build a reed bed between the course and the sea in order to naturally filter out some of the nitrates, to reduce the effect on the sea (Mobarak, personal communication, January 2002). This would be a positive step to minimizing the effect of one of the courses already in place. Yet there are also plans to build another course within the sea-breaker around the airport towards Pantai Cenang. Land would need to be reclaimed from the sea to do this. The three golf courses already in existence superficially seem deserted and sufficient demand for another course seems unlikely. Even if the growing Japanese and Singaporean demand is sufficient to warrant the creation of another course, the negative environmental effect of another large land reclamation project and the ongoing operational problems from vast water usage and leaching fertilizers, make the net gain to Langkawi doubtful.

9. There should be an EIA for any golf-course projects proposed for Langkawi.

VI.I.I.VI. Environmental Management:

Environmental management in hotels on Langkawi still has a long way to go. The few hotels with exemplary practices will hopefully inspire others to copy as there are win/win opportunities. Money can be saved as well as producing benefits to the environment.

10. Encourage all the 5 star hotels to attempt to gain ISO14001 status by adopting the necessary environmental management systems. There could be a financial incentive offered by LADA if the standard is attained. Once all the hotels of this standard have ISO14001 encourage 4 star hotels to follow suit.

VI.I.II. ECOTOURISM:

VI.I.II.I. Marketing:

In a growing market (see results p70), Langkawi as an ecotourism destination currently only has a low relative market share. High market growth coupled with a low market share makes ecotourism in Langkawi ‘a problem child’ (in terms of the Boston Consulting Group Matrix). In business strategic planning terms it should either be aggressively invested in or dumped (AFP, 2000).

11. Given that the sample of 250 tourists were basing their choice of destination on ecotourism related categories, the anticipated growing demand and the high levels of investment that have already been committed to the cable-car project, Langkawi should brand itself as an ecotourism destination. However in order to be successful in ecotourism, this strategy needs to be integrated into all planning on the island; if it is viewed as an add-on it is unlikely to be very successful.

The fact that different tourist groups have different requirements is very important for both marketing purposes and planning the development strategy for the island. In the UK Mail on Sunday, Night & Day magazine, a two page advertising feature by The Malaysian Tourism Board. It read: *“The 104 island of Langkawi, which lie on the Western Peninsular off the coast of Perlis, offer beaches that exceed even the finest of the Caribbean. But in Langkawi, unlike the Caribbean, you will probably find that you may have the beach all to yourself. Langkawi boasts an excellent choice of top-class hotels and a good selection of golf courses. As the islands have been given duty-free status, there are plenty of bargains to be had in the shops – present buying has never been so much fun, or so cheap! This is the ultimate choice for a totally relaxing beach holiday”* (Malaysia, 2002). The items mentioned in the feature above were ranked by a sample of 146 Westerners as 1st (relaxation), 2nd (beaches), 6th (sport) and 8th (shopping) for contributing to their choice. Unfortunately the 3rd, 4th and 5th (culture, marine park and nature respectively) have not been mentioned [ranks based on means] (see appendix table I).

12. Market different aspects of Langkawi to different groups of tourists based on why they choose Langkawi or what they enjoy most whilst they are staying. If an inappropriate or incomplete list of attributes are advertised, the opportunity to attract more tourists may not reach its full potential.
13. Do not make advertising claims about crystal clear water that Langkawi probably won't meet.

VI.I.II.II. Land-use zoning:

At the moment there are no clear land-use zones. All areas being all things to all people may be having a negative impact on tourist's enjoyment (see suggestion for further research on p99). For example both Duty Free shopping and ecotourism are positive opportunities for Langkawi, but they should be kept far apart from one another. Ecotourism activities are very sensitive to having big development projects nearby. This could be achieved by land-use planning and zoning.

14. Make a comprehensive land-use plan, possibly within the Structure Plan for 2005+. This is essential to meet tourists differing demands of Langkawi as well as the demands of the other key stakeholders. A Conservation International Report (Sweeting et al., 1999) gives advices on how to make such a plan.

VI.I.II.III. Regulation:

15. There should be strict limits on the number of boats and/or the number of visitors in Pulau Payar. This is not a new idea. An article in the New Straits Times from 1998 reads: "*A limit should be imposed on the number of visitors to Pulau Payar marine park here to prevent further destruction of its rich and diverse marine flora and fauna, a marine science expert said today*" (Bala, 1998). There are articles from 1996 pleading for a management plan for Pulau Payar (Cheng Li, 1996).
16. Substantially increase the marine park fee of RM5 per visitor which should reduce demand. Make different rates for tourists and locals reflecting the

resident's rights to use their own environment and the different 'willingness to pay' for leisure and recreational services. Ensure this money is invested back into improvements to the marine parks, for example improving the toilet facilities.

17. If there is no political will to change regulations or marine park fees, the operators could agree amongst themselves to fix the price of these tours substantially higher (this point was raised at the Sustainable Utilization of the Langkawi Archipelago's Marine and Coastal resources conference on 16-17th July, 2002). At a higher price less people will want to visit. If the price was carefully set it may even be possible to increase profit for the tour operators. Low cost mass tourism is not always the profit maximizing solution. It may be that high cost luxury tourism could make more money.

VI.I.II.IV. Certification:

18. Create a Langkawi ecotourism certification, for all tours to environmentally sensitive locations such as the mangroves and reefs. Certification should be based on indicators of sustainability (based on current best-practice) and approved via a stakeholder process with independent verification. Tour operators would have to fulfil certain rigorous environmental requirements to gain the eco-label. Hotel managers and guests would be told via leaflets that these tour operators are the most environmentally sound on the island and encouraged to use them. The system should be tested before full implementation (Epler-Wood & Halpenny cited in Hanneberg, 2002).
19. Certification to depend on indicators being met; for examples in the Mangroves:
 - (a) Tour boats should be powered by electric motors using solar batteries. These are virtually silent (to help with wildlife viewing), produce less air pollution, and should be set so they are only capable of going at quite a slow maximum speed. Ideally the boats would be wooden and built by local craftsmen. Boats of this kind are already used on river tours in Borneo (Borneo Eco Tours, 2002).

(b) Tour guides should receive free training arranged by a joint-venture between LADA and the Langkawi Nature Society (LNS). The training should educate the guides about matters including speed limits, flora and fauna, and the problems with feeding monkeys and eagles. The course material should be durable so the guides can also refer to it in the future. Every year, just before high season, there should be a one day refresher course to remind the previously certified guides about the major issues.

20. Operate spot checks on certified tours to ensure they meet these requirements to ensure that standards haven't lapsed once the eco-certification has been awarded.

VI.I.II.V. Education:

21. Sell educational books like 'Nature Guide Langkawi' in all LADA attractions and sell specific educational books about fish and coral at the Underwater World aquarium.

22. LADA and LNS to jointly run interpreting guiding courses so that this kind of guiding becomes the norm.

23. Distribute leaflets to all the hotels, attractions and the airport explaining that feeding monkeys is causing them to become dependent and aggressive as well as increasing the roadkill problem. The tourists should be told to say no to monkey feeding and to report any taxi drivers or guides that encourage it. There should be significant fines for taxi drivers caught encouraging their passengers to feed monkeys.

24. Create the training academy originally planned in the Structure Plan but not implemented. Offer courses in ecotourism and interpretive nature guiding as well as business skills. Encourage the indigenous population to attend courses.

VI.I.III. The Well Being of the Local People

This research has started to measure who is benefiting from Langkawi's tourism at the moment and assess whether the needs and well being of the local population are being met by the tourism policies.

VI.I.III.I. The local economy:

Current development thinking concentrates on boosting GDP to meet the island, state and country targets. The GDP focus and supply side government policies lead to overly optimistic planning. The Kedah Structure Plan is adamant that tourist beds are in short supply, it states: *“To cater for the tourism target set for 2010, accommodation facilities need to be upgraded both in terms of quality and quantity. Currently, there are about 8,059 rooms in the whole of Kedah [6000 in Langkawi]. This number is not likely to meet the increase in tourist numbers in future.”* Despite arrivals flattening out (see Background p27) and low occupancy rates (from personal communications) the authorities are trying to use Keynesian supply-side government-spending and private sector investment ‘injections’ to try and indirectly boost demand for Langkawi and Kedah as tourist destinations. Using arrival numbers and making the assumption they are tourist figures further encourages this. Unnecessary empty hotels makes Langkawi appear empty and give the impression of failure even when the numbers of visitors it attracts is reasonable compared to other island destinations.

25. If supply-side policies are going to continue to guide development then marketing efforts must be dramatically stepped up to match. If this is unsuccessful then the authorities need to accept that the top of Butler's curve has been reached and that Langkawi is now a mature destination and further steep tourism growth is unlikely. Langkawi's tourism will continue to make a positive contribution to Kedah GDP. If further GDP growth is needed options that minimize the leakage from established tourism enterprises should be encouraged. This strategy has added weight because the large scale projects currently favoured are having negative environmental implications.

26. Given the above, stop plans to remove locally owned and managed guesthouses to make room for more exclusive resorts.

The guesthouses and hotels have already been moved at Pantai Kok, but it is not too late to reconsider proposals for the Pantai Cenang and Tengah beaches. This tourist belt with its many interesting guesthouses and diverse range of hotels does not need a four lane highway and large scale development projects. At least wait and assess the success of the Pantai Kok luxury development, involving vast land reclamation and creation of an artificial marina before proceeding with more supply-side building.

Equity issues must be considered as well as just GDP or there is a danger that Langkawi, Kedah and Malaysia will all become further financially imbalanced and dissatisfaction by the have-nots may bring the whole development process down. This is a real threat, votes for the religious fundamentalist parties are rising especially from the rural communities and these parties have taken power in two states already.

27. Adopt ecotourism as the way forward for Langkawi's tourism industry. This gives the best chance at considering the needs of the local people and establishing participatory planning that involves people at all levels of society and not just the confident and well-connected.

28. Consider using the virtually empty Tiara Hotel for the promised tourism institute.

VI.I.III.II. Social Factors:

Apparently the wearing of the veil is much more common in Langkawi now than it was 10 years ago (various personal communications). A comment cited in a book by Sheridan (1999) reads *'It's part of the need to create a post-independence cultural identity. You use women as symbols of your culture. Veiling should be a matter of choice. It's up to you if you want to do it and that's fine but you can't impose it on someone else.'* Rules preventing staff wearing veils in some hotels and guesthouses removes their choice. A veil may symbolise their commitment to the Islamic faith or be part of their identity as a Malaysian woman.

29. Hotel regulations must not dictate that women either should or should not wear a veil; the key is letting them all have the choice.

One Malay lady working at a guesthouse revealed (when the hotel survey was being conducted face to face), that foreign tourists in swimwear are avoided. Apparently she and her female colleagues do not go onto the beach because they do not wish to see these scantily clothed tourists. Tourism is affecting where these ladies can go on their own island. Another foreign lady from a different guesthouse revealed the embarrassment her Malay husband felt if tourists came into the office only wearing swimwear.

30. Provide information to tourists about the appropriate way to dress. Locals generally accept tourists wearing few clothes on the beach as they can avoid this area but it is unfair if the tourists stay wearing swimwear when wandering around town. They have no idea of the effect they are having and need to be advised against this. They must be reminded that it is a Muslim country and to dress appropriately.

VI.II. PRACTICAL CONSIDERATIONS:

VI.III.I. Possible improvements to the research methods:

Table VI.I. below shows some improvements:

Table VI.I.	
Tourist Questionnaire: (see Appendix I)	
-	Stratified random sampling of tourists of nationalities to match the proportions of nationalities recorded by LADA from the international arrivals.
-	Keep detailed records of numbers refusing to answer the tourist questionnaire and ensure that the hotels and guesthouses do the same.
-	Provide Japanese, Taiwanese and Bahasa Malay versions of the questionnaire.

Hotel and Guesthouse Survey: (see Appendix II)
- Request the hotel's water usage question as a monthly cost rather than in volume as this information is more readily available from accounting records. This approach worked well for electricity.
- Define a hotel naturalist (6c1) so as to prevent any flexible interpretation of this question.
- Ask a more open question regarding the reasons hotels/guesthouses had for using certain tour operators.
- Have sub-categories within the Malaysian nationality for Malay, Chinese, Indian and Other races for questions on hotel ownership (1c) and staff nationalities (9a). Malaysian history has been steeped in problems addressing the issue of economic inequality associated with their mixed race population. The most obvious sign of this in Langkawi is the disproportionate number of Chinese with shops. A comment from a Malay from Kayat's recent Langkawi study (2002) illustrates the differing behaviour of the races: <i>"I knew ahead of time about the exact date that Langkawi was to become a duty free island. But that was all I knew, the date. The day Langkawi became a duty free island, the Chinese already had ships in the port full of products... That was how fast they were. They had the information and used it."</i>
- Add an option into the social aspects of the operation question (9b) to ask whether alcohol was allowed on the premises.
Informal Interviews:
- Record and later transcribe informal interviews (when informants allowed this).

VI.II.II. Changes recommended if the research was repeated:

1. Measure supply and demand for Langkawi. To do this, ask hotels for their total number of beds (supply) and occupancy percentages of these beds throughout the year (demand). This would allow a bottom up accurate estimate of the tourist and visitor numbers who use the hotels and guesthouses to be calculated. At present LADA do not have this information yet it would be beneficial to them for facilitating more accurate development planning.

2. Ask the tourists directly whether each of the ten factors exceeded their expectations or disappointed them. This would be more accurate than trying to infer it from movement in the rankings. The results may reveal more strengths and weaknesses with the current situation on Langkawi.

3. Measure economic leakage from the tourist spending by asking for a range of Langkawi's hotel accounts and analysing the % spent on local employee's salaries and local goods and services. Find out with employee surveys where they subsequently spend their salary.

VI.II.III. Further questions that this research poses:

1. Eagle feeding is becoming an established part of the mangrove tours. At present some 3-4 boats are feeding the eagles every day. The naturalists seem to agree that feeding the eagles with chicken guts is a practice that must stop as there is risk of contamination with disease such as bird cholera. Some claim to have noticed a reduction in the quality of the feathers of the young eagles over the few years this practice has been operational. Amongst the naturalists, opinions vary about feeding the eagles with fish. Some of the naturalists in the LNS are saying that are also concerned that the young eagles will now not learn to hunt for themselves (Mobarak, personal communication, June 2002). Others say that the fishermen have thrown their unwanted fish haul back overboard for centuries and replicating this for tourists is no different (Aidi Abdullah, personal communication, July 2002). This issue is of interest for bird welfare, species conservation (there is only one species of Osprey worldwide and it is found in Langkawi) and for the conservation of Langkawi's heritage (the Brahminy Kite is symbol of Langkawi and some even say the name of the island was derived from the name of this bird 'helang' in Malay) (Naidu, 2002). To reach a conclusion on this matter a detailed study is needed to compare young eagles (perhaps using wings quality as an indicator) that (a) feed in the Kilim river (mostly fed chicken guts and some fish) to (b) eagles who eat the fisherman's catches, and, (c) eagles in remote parts of the archipelago largely undisturbed by humans, (the control).

2. The literature suggests that there is very high economic leakage from cruise ship visitors and observing how the Star Cruise passengers spend their money seems to confirm this. They do not stay a single night in Langkawi and go on mass coach tours taking in all the government owned attractions. There are virtually no opportunities for contact with local businesses. This is of interest as these tourists do not appear to contribute much to the well-being and development of the local people, yet cruises are an especially fast growing segment of the industry. This has negative implications for the development and sustainability of tourism destinations worldwide. Cruise ships are also associated with increasing solid and liquid waste to be disposed of at their ports of call and dumping of waste overboard that contributes to litter on the beaches (CSD, 1999). It would be interesting to compare the pattern of spending of those passengers on the cruise ship with Langkawi's other tourists. This would require a modified tourist questionnaire set up for the cruise passengers. It would need to: (a) ask about spending patterns 'today' (rather than yesterday) and as a consequence it would need to be answered by the passengers at the end of their day in Langkawi (probably while they are eating supper at the Awana Porto Mali hotel before departing), and, (b) it would ask whether visiting Langkawi as a stop was a factor in choosing the cruise (rather than asking the tourists what their reasons were for choosing Langkawi). The Star Cruise company could be also asked questions about their waste management.

3. A lack of land-use zones may be having a negative impact on tourist's enjoyment. Tourists would complete a questionnaire asking whether facilities are best together or separated. One such question would be: Does having the Oriental Shopping Village and the Geo-Eco cable car together detract or add to (a) the shopping experience, and (b) the cable-car experience. The hypothesis would be that the cable car adds to the enjoyment of those going there for a shopping experience but detracts from the experience of those who went there for natural attributes. The replies could be used to establish whether overall the combination created positive synergies or represented a planning weakness. This work would be interesting for establishing whether there is a need for land-use zone planning to separate these kinds of facilities.

VI.III. THE SIGNIFICANCE OF THE RESEARCH PROJECT

VI.III.I. Practical significance:

WWF-M is shifting its work on Langkawi from the marine environment to the land. This project is the first land based study they have supported. It is consequently an important precedent for any further research they undertake as it may give ideas for the future direction of their research.

LADA have not carried out ground level public research. Decisions are made without a full understanding of what different groups of tourists are demanding of Langkawi. They are interested in the study and it may encourage them to do further studies of this kind. Planning on Langkawi is supply driven yet the optimistic creation of more hotels and attractions are not always successful. Langkawi is littered with white elephants. To escape this trend LADA must listen to the demands of their tourists. This study encourages this and presents some preliminary ideas.

LADA are preparing to write the next Structure Plan for 2005+ and are also writing an ecotourism strategy. This makes it a critical time for making recommendations as to LADA.

The WWF-M, LADA and DOFM workshop where I presented my preliminary findings on 16th-17th July 2002, culminated in a Memorandum of Understanding being signed by WWF-M and LADA, to form a steering committee to advise and consult with LADA. This steering committee is a positive step towards increased stakeholder participation and increased transparency between LADA and the public. Historically challenging LADA's approach has been considered unacceptable but now this committee will be able to make recommendations directly to the island's policy makers.

The Asia-Pacific Ecotourism conference is to be held in Langkawi in September 2003 by LNS at the Andaman hotel. The potential for close scrutiny of Langkawi by leaders in ecotourism (during this conference) should "encourage" Langkawi to implement ideas faster and more rigorously so it can demonstrate true working ecotourism. The power of this position should be maximised by NGOs to create positive momentum.

VI.III.II. Academic significance:

This thesis was carried out in association with WWF-M with the consent of LADA. It is the first attempt to simultaneously establish the cumulative environmental and economic effects of all the tourist accommodation on a developing country island destination, and, focus on the specialised niche ecotourism market. Wherever possible it looks at the interaction between the two. The ecotourism market is increasing and a development strategy focusing on this niche may minimise some of the problems associated with the mass market. The research is also conducted on an island where there is a mismatch between supply and demand stemming from the top-down policies. The work links this mismatch to the need for more participation by the local population, to increase GDP without the carrying capacity of the island being exceeded. This would happen with a properly implemented ecotourism strategy.

The findings from the research are consistent with the pro-poor tourism literature although the criticisms of this stance raised by other authors are also respected. The established economic principles of multipliers and leakage are used in this work as are the long standing and respected carrying capacity ideas. The findings and recommendations tie into the global rise in certification initiatives and the recent developments at the Johannesburg Summit, which has a substantial section of agreements relating to sustainable tourism development.

VII. CONCLUSION

“Ecotourism is a sustainable development tool that creates contact between people on opposite sides of the earth, as hosts and guests. If an ecotourism experience can truly reach the hearts and minds of both - convincing them that efforts to help conserve the environment can make a difference - then the chances of achieving conservation and sustainable development into the next millennium are a little bit greater.” (Epler-Wood cited in Hanneburg, 2002).

While this analysis is specific to Langkawi and the recommendations are tailored to it, the environmental and economic problems faced from tourism are found in virtually all tourist destinations and especially those in the developing world. Tourism is a vast and growing industry because of human’s ‘longing for the other.’ Tourism seduces us by the idea of bliss, an alternative reality, safe for a few days or weeks from the problems of the world. The tourism industry sells paradise, (no wonder it is a large and growing industry), yet this same industry creates immense damage to the environment and the economic gains are rarely shared equitably. To move towards sustainable tourism the most important concept to recognise is that there is only one world and that no-one can ‘escape’ from its problems. Our holiday has profound implications on people’s livelihood’s and the nature and culture at our destination.

Ecotourism, as a subset of sustainable tourism, has the potential for interpreting tourism itself; for gradually making travellers realise that escape is a futile concept and the most rewarding way to spend those few days or weeks is not pushing the problem under the luxury carpet, but by getting actively involved and interested in ensuring that the ‘paradise’ we need to ‘escape to’ remains so in the future. Development policy in developing country tourist destinations, must integrate sustainability into their plans for this industry to survive. If they fail the destination will only have a fleeting period of success before its paradise qualities are exhausted and what remains is natural degradation and income inequality. For anything approaching ‘paradise’ to exist in today’s globalised world, it needs to be worked at tenaciously. Only then will future generations be able to ‘escape’ to a properly managed and sustainable paradise.

APPENDIX I.

LANGKAWI

TOURIST QUESTIONNAIRE:

- I am a postgraduate student at Imperial College in London and I am researching tourism in Langkawi.
- Please help my research by answering the following questions as accurately as possible.
- The answers you provide are **CONFIDENTIAL** and no individual answers will be used.

A. How many nights are you intending to spend on Langkawi:.....

B. How many times have you been to Langkawi **before** this trip:

1. I have never been to Langkawi before
2. Once
3. Twice
4. Three times or more

How did you originally hear about Langkawi as a holiday destination:
.....

C. Which hotel(s)/guesthouse(s) are you staying in on Langkawi:.....
.....

How did you hear about your chosen hotel(s)/guesthouse(s):.....
.....

D. How do the things you are enjoying now you are in Langkawi, compare to your reasons for choosing Langkawi (when you were planning your trip)?

To answer this, please **rank** the following ten options (in both columns) until the items have no relevance to (a) your choice, and (b) your visit.

1st = the **most** important to your choice
the one you have found to be **most** important to your visit

10th = the **least** important to your choice
the one you have found to be **least** important to your visit

For example:

	What reasons did you have for choosing to visit Langkawi?	What have you experienced and enjoyed most whilst staying here?
1. Sports: golf, tennis and watersports	1	2
2. Marine park: islands and reefs	2	1

	What reasons did you have for choosing to visit Langkawi?	What have you experienced and enjoyed most whilst staying here?
1. Sports: golf, tennis and watersports		
2. Marine park: islands and reefs		
3. Nature: rainforests and mangroves		
4. Entertainment/Nightlife		
5. Experience of another culture		
6. Beaches and sea		
7. Duty Free shopping		
8. Attractions/Heritage sites		
9. Business activity		
10. Relaxation		

11. If appropriate please specify any other (a) reasons for choosing Langkawi

.....

(b) factors you have found important to your enjoyment in Langkawi

.....

E. What did you do **yesterday**?

Please **tick** all the relevant boxes, (more than one can apply) and give details when appropriate.

1. Stayed in hotel/resort using facilities provided

What facilities did you use?.....
.....

2. Spent time on the public beach

What activities did you participate in?
.....

3. Spent time in local restaurants and/or bars

How many different establishments did you go to?
.....

4. Went on a trip arranged by the hotel

Where to?.....
.....

5. Went on a trip arranged with locals or a local agency

Where to?.....
.....

6. Explored independently

Where?.....
.....

7. Other (please specify):.....
.....
.....

Are there any additional comments that you would like to make about the quality of your experiences? (Comments may apply to any day during your visit to Langkawi, not just yesterday).

.....
.....
.....
.....

F. I am interested in how tourist spending is distributed between hotel operators and local small businesses. I would like you to say how you spent your money **yesterday**.

It is important to include **all** items of expenditure, however small.

Please state **how many people** this expenditure is for:

For example

Adults (over 16)

Children (under 16)

Adults (over 16)

Children (under 16)

	Amount in RM
1. Hotel daily rate (if you do not know please state the hotel name and the category of room(s) you are staying in):	<input type="text"/>
2. Other amounts put on hotel bill (E.g. meals, car rental, souvenirs, massages and tours):	<input type="text"/>
3. Amounts paid to local tour operators/agencies:	<input type="text"/>
4. Tips given to tour guides or hotel staff directly:	<input type="text"/>
5. Entrance fees for attractions:	<input type="text"/>
6. Amounts paid in large duty free stores and to international businesses (E.g. Body Shop, Nike, McDonalds) [Include petrol from Shell and Petronas]:	<input type="text"/>
7. Amounts paid to local shops and businesses (E.g. souvenirs, groceries, watersports, car and scooter rental (if this was not through your hotel)):	<input type="text"/>
8. Amounts paid to local restaurants outside the hotel:	<input type="text"/>
9. Amounts paid to local people working in stalls, markets or independently:	<input type="text"/>
10. Other (please specify):	<input type="text"/>

G. Ecotourism

"Ecotourism is responsible travel to natural areas that conserves the environment and sustains the well being of local people."

(The International Ecotourism Society, 1991)

a. Do you consider that your holiday here in Langkawi includes any ecotourism?

1. Yes

2. No

If yes, please specify which parts of your holiday have involved ecotourism.....

.....
.....
.....

b. Have you ever been on an ecotourism holiday?

1. Yes

2. No

c. Would you like to go on an ecotourism holiday?

1. Yes

2. No

H. General - what is your:

a. Nationality.....

b. Country of residence.....

c. Age

1. 16-25

2. 26-35

3. 36-45

4. 46-55

5. 56-65

6. 66+

d. Sex

1. Male

2. Female

e. What is your highest academic attainment?

1. Primary school

2. Lower secondary school

3. Upper secondary school

4. Vocational/Technical

5. University

6. Postgraduate/Professional

f. Please tick the box that corresponds to your annual salary (gross of tax)?

Please tick here if you are unemployed, retired or a student:	
---	--

	Thai Baht (THB)		Singapore \$ (SGD)		Australian \$ (AUD)		UK £ (GBP)	
1.	< 310,500		< 13,000		< 13,000		< 5,000	
2.	310,500 – 620,000		13,000 – 26,000		13,000 – 26,500		5,000 – 10,000	
3.	620,000 – 1,242,000		26,000 – 52,000		26,500 – 53,000		10,000 – 20,000	
4.	1,242,000 – 1,863,000		52,000 – 78,000		53,000 – 79,000		20,000 – 30,000	
5.	1,863,000 – 3,105,000		78,000 – 131,000		79,000 – 132,000		30,000 – 50,000	
6.	3,105,000 – 6,210,000		131,000 – 261,000		132,000 – 264,500		50,000 – 100,000	
7.	6,210,000 +		261,000 +		264,500 +		100,000 +	
	Japan Y (JPY)		Taiwan \$ (TWD)		Europe € (EUR)		Malaysian RM (MYR)	
1.	< 918,000		< 251,000		< 8,000		< 27,500	
2.	918,000 – 1,835,000		251,000 – 501,000		8,000 – 16,000		27,500 – 55,500	
3.	1,835,000 – 3,671,000		501,000 – 1,002,000		16,000 – 32,000		55,500 – 111,000	
4.	3,671,000 – 5,506,000		1,002,000 – 1,503,000		32,000 – 47,500		111,000 – 166,000	
5.	5,506,000 – 9,177,000		1,503,000 – 2,505,000		46,500 – 79,000		166,000 – 277,000	
6.	9,177,000 – 18,359,000		2,505,000 – 5,010,000		79,000 – 158,500		277,000 – 554,000	
7.	18,359,000 +		5,010,000 +		158,500 +		554,000 +	

I. Are there any other comments that you would like to make?

.....
.....
.....
.....
.....
.....

If you have any questions about the questionnaire or wish to find out more about the study please contact me at:

caroline.langley@ic.ac.uk

or:

Ms. C. M. Langley
Department of Environmental Science and Technology
Royal School of Mines 3rd Floor
Faculty of Life Sciences
Imperial College London
Prince Consort Road
London SW7 2BP
UK

APPENDIX II.

Department of Environmental Science
Royal School of Mines 3rd Floor
Faculty of Life Sciences
Imperial College London
Prince Consort Road
London SW7 2BP
UK

June 2002

Dear Manager,

I am a postgraduate student at Imperial College (part of the University of London). For my Masters degree thesis I am spending two months here researching “the environmental and economic implications of the policies encouraging tourism”. I have the consent of LADA to do this research (see the letter attached behind) and will be providing them with a copy of my thesis. Hopefully they will be able to use my work to inform future policy decisions.

I would be extremely grateful if you would help me with my research by completing the attached survey as accurately as possible. The answers are confidential and individual responses will be for my eyes only. It is only all the hotel’s combined responses that will be analysed in the finished thesis. It is very important for me to get a completed survey from every hotel and guesthouse as there are only a limited number on Langkawi.

I have also included some tourist questionnaires. Is there any possibility that you could give these to a sample of your guests (one questionnaire per family or group) to fill out? This questionnaire takes about 5 – 10 minutes to complete (depending on the guests fluency in English) and is totally anonymous and confidential.

I will come and collect the survey and any completed tourist questionnaires in a few days. If you have any substantial queries regarding any of the questions in the survey please call me on my handphone 0136673982. Alternatively when I come any pick up the surveys we can talk through any smaller queries or difficulties that you have had with any of the questions.

Thank you very much for helping me with my research work,

Yours faithfully,

Caroline Langley
Imperial College London

Langkawi: Hotel and Guesthouse Survey:

I am a postgraduate student at Imperial College in London and I am researching tourism in Langkawi. Please help my research by answering the following questions as accurately as possible.

1. General:

a) What is the name of the hotel or guesthouse?

b) When did the hotel open?

- | | |
|----------------|--|
| 1. Before 1987 | |
| 2. 1987 – 1990 | |
| 3. 1990 – 1995 | |
| 4. 1996 – 2000 | |
| 5. 2001 – 2002 | |

c) Who owns the business?

Please put numbers in the boxes which add to 100%

- | | |
|---|-------------|
| 1. LADA | |
| 2. Malaysians who lived in Langkawi before 1987 | |
| 3. Malaysians who have chosen to live in Langkawi since 1987 | |
| 4. Other Malaysians (not living on Langkawi) | |
| 5. Other nationalities who lived in Langkawi before 1987 | |
| Please state the nationalities | |
| 6. Other nationalities who have chosen to live in Langkawi since 1987 | |
| Please state the nationalities | |
| 7. A Malaysian company with predominantly Malaysian shareholders | |
| Please state company name | |
| 8. An Asian company with predominantly Asian shareholders | |
| Please state company name | |
| 9. An International company | |
| Please state company name | |
| 10. Other, please specify:..... | |
| TOTAL | 100% |

d) How many rooms are there?

e) Do you have a star rating?

- | | |
|----------|--|
| 1. No | |
| 2. * | |
| 3. ** | |
| 4. *** | |
| 5. **** | |
| 6. ***** | |

f) What price are the rooms (not discounted)?.....

2. Resource Use:

Water:

a) Do all hotel rooms have either a bath or a shower?

1. Yes 2. No

b) How many baths and showers are there in the hotel?
 Please insert numbers in the boxes.

1. Number of rooms with a shower		
2. Number of rooms with a bath (baths may have an overhead shower)		
3. Number of rooms with both a bath and separate shower	<input type="text"/>	x 2 <input type="text"/>
4. Number of baths and showers shared between rooms		
5. Number of communal showers by the pool or beach		
Please add, to ascertain the TOTAL number of baths and showers		

c) Do you have (a) swimming pool(s)?

1. Yes 2. No

If yes, what volume of water is needed to fill the pool(s)?

d) What is the total water usage per week?

Electricity:

e) What is the total electricity cost per month (average)?.....RM

f) What initiatives are being taken to improve energy and water efficiency?
 Please tick any that apply and add in any additional measures being adopted by your hotel/guesthouse.

1. Towels are only changed when they are left in a certain way (by the guest as an indicator that they would like them to be changed)	<input type="checkbox"/>
2. Energy efficient lightbulbs are used	<input type="checkbox"/>
3. In the late evening, lights in public areas are kept to a minimum	<input type="checkbox"/>
4. Other, please specify.....	<input type="checkbox"/>

3. Waste:

Rubbish:

a) What amount of physical waste (rubbish) do you produce per week?
Depending on the size of hotel or guesthouse, please estimate this either in weight (e.g. tons) or the number of bags

b) Who collects it?

- 1. Local Authority
- 2. A local private contractor for a fee
- Please specify the name of the contractor
- 3. Other, please specify.....

c) Where does it go?

- 1. Local Authority (MDL) dump site
- 2. Incinerator
- 3. Other, please specify.....
- 4. The hotel/guesthouse is not sure where the rubbish goes

c) Is recyclable and non-recyclable waste separated prior to collection?

- 1. Yes
- 2. No

d) If applicable, please state any efforts made by the hotel/guesthouse to reduce waste?

.....
.....

Sewage:

e) What sewerage system is currently used?

- 1. Independent septic tank desludged by an appointed contractor
Please specify which contractor
how often desludging occurs and where the sludge ends up.....
- 2. Independent septic tank desludged manually by the hotel
How often does desludging occur.....
How is sludge treated or dealt with.....
.....
- 3. Communal (shared) septic tank, desludged and managed by a private or public sector operator. Please specify which operator and any additional information known.....
.....
- 4. There is no treatment, discharge goes directly into coastal waters
- 5. Other, please specify.....
.....

f) Would you be willing to invest in a better sewerage treatment system?

1. Yes 2. No

4. The Beach:

a) Do you have a beachfront location?

1. Yes (private) 2. Yes (public) 3. No

b) If you do have a beachfront location (private or public), do you consider it to be your responsibility to ensure the beach in front of the hotel is free from rubbish?

- | | |
|---|--------------------------|
| 1. Yes it is the hotel's responsibility:
We clear the beach of rubbish every day. | <input type="checkbox"/> |
| 2. Yes it is the hotel's responsibility:
We clear the beach of rubbish at least once a week. | <input type="checkbox"/> |
| 3. Yes it is the hotel's responsibility:
We clear the beach of rubbish occasionally. | <input type="checkbox"/> |
| 4. No, it is someone else's responsibility:
Please specify who..... | <input type="checkbox"/> |

5. Environmental Management:

THIS SECTION IS ONLY COMPULSORY FOR HOTELS WITH 2 OR MORE STARS, otherwise please only fill in this section where it is relevant to your hotel.

a) Do you have an environmental management system in place?

1. Yes * 2. No

b) Do you have ISO14001 status?

1. Yes * 2. No

* If yes, to (a) or (b) please could you provide copies of any environmental plans?

c) Are environmental and social issues factored into operations and effectively monitored?

1. Yes 2. No

d) If yes, explain how?

- | | |
|---|--------------------------|
| 1. Using an environmental management system | <input type="checkbox"/> |
| 2. Using housekeeping checklists | <input type="checkbox"/> |
| 3. Other, please specify | <input type="checkbox"/> |
| | |

e) What is the environmental policy of the hotel and why?

.....
.....

f) What is the mission statement of the hotel?

E.g. **who** are you are targeting, **how** are you looking after their needs and **why** are you doing it

.....
.....
.....

g) Are your company's products or services environmentally labelled or certified?

1. Yes

2. No

If yes, explain which label or certification process is used?

.....
.....

Has it been useful to you? (Please mention strengths and weaknesses.)

.....
.....

6. Education:

a) What environmental training do employees receive and with what frequency? Please include comments about any training that emphasises cleanliness, pest control (insects, monkeys), landscaping, waste etc.

.....
.....
.....
.....

b) Does the hotel make any efforts to educate the guests about the natural environment of Langkawi?

1. Yes

2. No

c) If yes, how? Please tick all the boxes that apply and write in about any additional schemes. (Do not include comments about tours; these will be covered in the next section).

1. Yes, we have a hotel naturalist and the guests can go on guided nature walks

2. Yes, we sell books such as "Nature Guide Langkawi"

3. Yes. Other please specify.....

.....
.....
.....

If there is a hotel naturalist (or other similar option available to guests) approximately what percentage of guests participate?

- | | |
|----------------|----------------------|
| 1. 1% - 10% | <input type="text"/> |
| 2. 11% - 20% | <input type="text"/> |
| 3. 21% - 30% | <input type="text"/> |
| 4. 31% - 40% | <input type="text"/> |
| 5. 41% - 50% | <input type="text"/> |
| 6. 51% - 60% | <input type="text"/> |
| 7. 61% - 70% | <input type="text"/> |
| 8. 71% - 80% | <input type="text"/> |
| 9. 81% - 90% | <input type="text"/> |
| 10. 91% - 100% | <input type="text"/> |

7. Tours:

a) Do you book tours for your guests?
1. Yes 2. No

b) Do you receive commission from these bookings?
1. Yes 2. No 3. Not applicable

c) Approximately what percentage of guests participate in tours booked by you?

- | | |
|----------------|----------------------|
| 1. 1% - 10% | <input type="text"/> |
| 2. 11% - 20% | <input type="text"/> |
| 3. 21% - 30% | <input type="text"/> |
| 4. 31% - 40% | <input type="text"/> |
| 5. 41% - 50% | <input type="text"/> |
| 6. 51% - 60% | <input type="text"/> |
| 7. 61% - 70% | <input type="text"/> |
| 8. 71% - 80% | <input type="text"/> |
| 9. 81% - 90% | <input type="text"/> |
| 10. 91% - 100% | <input type="text"/> |

Please provide an amount in RM for the total value of tours booked through the hotel (per month)?RM

8. Recreation:

a) Does your hotel offer recreational sporting activities?

1. Yes

2. No

b) If yes, what sporting facilities (public or private) does your hotel/guesthouse use?

- | | |
|---|--------------------------|
| 1. Golf (private) | <input type="checkbox"/> |
| 2. Golf (public) | <input type="checkbox"/> |
| 3. Tennis | <input type="checkbox"/> |
| 4. Jet-skis | <input type="checkbox"/> |
| 5. Water-skiing and/or parasailing | <input type="checkbox"/> |
| 6. Sailing, windsurfing and/or kayaking | <input type="checkbox"/> |

9. Economic & Social:

a) How many staff do you employ?

Please put numbers in the boxes that add to the total number of staff, (row 7). If you are not entirely sure of the split between the categories, please provide your best estimate.

- | | |
|---|--------------------------|
| 1. Malaysians who lived in Langkawi before 1987 | <input type="checkbox"/> |
| 2. Malaysians who have chosen to live in Langkawi since 1987 | <input type="checkbox"/> |
| 3. Other nationalities who lived in Langkawi before 1987 | <input type="checkbox"/> |
| 4. Other nationalities who have chosen to live in Langkawi since 1987 | <input type="checkbox"/> |
| 5. Work placements for students from tourism schools in Malaysia | <input type="checkbox"/> |
| 6. Work placements for students from tourism schools outside Malaysia | <input type="checkbox"/> |
| 7. TOTAL number of staff employed | <input type="checkbox"/> |

b) How do you address the social aspects of operations, such as impacts on local cultures and working conditions? Please tick any that apply.

- | | |
|--|--------------------------|
| 1. Staff are allowed a break to go to the mosque on Friday | <input type="checkbox"/> |
| 2. Staff are allowed to consistently take Friday (or other religious days) off | <input type="checkbox"/> |
| 3. Female staff may wear a veil (mini telekung) if they wish | <input type="checkbox"/> |
| 4. Guests are forbidden from sunbathing topless | <input type="checkbox"/> |
| 5. Other, please specify..... | <input type="checkbox"/> |
| | |
| | |

c) What credit terms do you give local suppliers?

- | | |
|--|--------------------------|
| 1. They are paid immediately | <input type="checkbox"/> |
| 2. They are paid in less than 30 days | <input type="checkbox"/> |
| 3. They are paid in between 31-45 days | <input type="checkbox"/> |
| 4. They are paid in between 46-60 days | <input type="checkbox"/> |
| 5. They are paid in more than 60 days | <input type="checkbox"/> |

10. Other:

Do you wish to make any further comments?

.....
.....
.....
.....
.....
.....
.....
.....
.....

If you have any questions or wish to find out more about the study please contact me at:

caroline.langley@ic.ac.uk

or: Ms. C. M. Langley,
Department of Environmental Science and Technology,
Royal School of Mines 3rd Floor,
Faculty of Life Sciences,
Imperial College London,
Prince Consort Road,
London SW7 2BP
UK

APPENDIX III.

Classification of tourist accommodation in Langkawi:

4 and 5 star hotels:

1. Berjaya Langkawi Beach & Spa Resort
2. Holiday Villa Langkawi
3. Langkasuka Beach Resort
4. Mutiara Burau Bay Beach Resort
5. Pelangi Beach Resort
6. Rebak Marina Resort
7. Sheraton Beach Resort
8. Sheraton Perdana Resort
9. Tanjung Rhu Resort
10. The Andaman
11. The Datai
12. The Paloma Resort
13. The City Bayview Hotel

Hotels (not 4 and 5 star):

14. Aseania Resort Langkawi
15. Awana Porto Malai
16. Beach Garden Resort
17. Beringin Beach Resort
18. Casa del Mar
19. Federal Lodge
20. Garden Hotel
21. Hotel Central
22. Hotel Grand Continental
23. Hotel Helang
24. Hotel Langkasuka, Kuah
25. Hotel Panorama Langkawi
26. Kampung Kok Senik Resort Langkawi
27. Kondo Istana
28. Langkawi Seaview
29. Langkawi Village Resort
30. Nadias Inn Comfort
31. Perdana Beach Resort
32. Region Hotel
33. Singgahsana Kub Resort
34. Tanjung Sanctuary
35. The Gates
36. The Lanai Langkawi Beach Resort
37. Tiara Langkawi Hotel

Guesthouses in the Pantai Cenang and Pantai Tengah tourist-belt:

38. AB Motel
39. Beachview Chalets Backpackers International
40. Cenang Rest House
41. Charlie Motel
42. Chenang Beach Motel
43. Delta Motel & Restaurant
44. Grand Beach Motel
45. Green Hill Beach Resort
46. Lagenda Perma Chalets
47. Langkapuri
48. Melati Tanjung Motel
49. Sandy Beach Resort
50. Semarak Langkawi Beach Resort
51. Sri Intan Langkawi TM Resort
52. Sugary Sands Motel
53. Sunset Beach Resort
54. Tanjung Malie Beach Hotel
55. Tropical Resort
56. Vistar Motel

Other guesthouses:

57. Chandek Kura Resort
58. Hotel Asia
59. Hotel Langkawi
60. Hotel Malaysia
61. Inapan desa Permai
62. JB Motel
63. Kok Seng Motel
64. Langkawi Chalet
65. Motel Pantai Aneka
66. Mowanza Motel
67. Nagoya City Hotel
68. Pasir Hitam Beach Resort (Royal Malaysia Police)
69. Putra Hotel
70. Rumif Condominium
71. Sunrise Island Resort
72. Sri Baya Inn
73. Sri Manis
74. Twin Peaks Island Resort

APPENDIX IV.

Key informants cited in the text:

Aishah Binti Abdullah	Planning Manager of Langkawi Development Authority
Irshad Mobarak	Vice-President of The Langkawi Nature Society and Naturalist at The Datai Hotel
Jürgen Zimmerer	Author of Nature Guide Langkawi and owner/manager of the Canopy Adventure Tour
Aidi Abdullah	Naturalist at the Tanjung Rhu Resort

APPENDIX V.

Table I. The means and medians of the tourist’s rank of their ‘reasons for choosing Langkawi,’ arranged in order of ascending means

What reasons did you have for choosing to visit Langkawi?					
ASIANS	Mean	Median	WESTERNERS	Mean	Median
Relaxation	2.239	2	Relaxation	1.871	1
Beaches and sea	2.287	2	Beaches and sea	2.311	2
Marine park: islands and reefs	2.994	2	Experience of another culture	3.992	3
Duty Free shopping	4.136	3	Marine park: islands and reefs	4.406	4
Attractions/Heritage sites	4.595	4	Nature: rainforests and mangroves	4.464	4
Nature: rainforests and mangroves	4.640	5	Sports: golf, tennis and watersports	6.467	7
Experience of another culture	5.436	5.5	Attractions/Heritage sites	6.508	7
Sports: golf, tennis and watersports	5.947	6	Duty Free shopping	6.772	7
Entertainment/Nightlife	7.056	8	Entertainment/Nightlife	7.120	8
Business Activity	8.541	10	Business Activity	9.444	10

FOUR AND FIVE STAR HOTELS	Mean	Median	OTHER ACCOMMODATION	Mean	Median
Relaxation	2.073	1	Relaxation	1.951	1
Beaches and sea	2.392	2	Beaches and sea	2.212	2
Marine park: islands and reefs	4.061	4	Marine park: islands and reefs	3.629	4
Experience of another culture	4.259	4	Nature: rainforests and mangroves	4.697	5
Nature: rainforests and mangroves	4.366	4	Experience of another culture	4.835	5
Sports: golf, tennis and watersports	6.070	6	Duty Free shopping	4.869	5
Attractions/Heritage sites	6.090	6	Attractions/Heritage sites	5.367	5
Duty Free shopping	6.599	7	Sports: golf, tennis and watersports	6.469	7
Entertainment/Nightlife	7.179	8	Entertainment/Nightlife	7.011	8
Business Activity	9.232	10	Business Activity	8.946	10
UNIVERSITY / PROFESSIONAL	Mean	Median	SCHOOL / VOCATIONAL	Mean	Median
Relaxation	1.828	1	Relaxation	2.046	2
Beaches and sea	2.357	2	Beaches and sea	2.195	2
Marine park: islands and reefs	3.769	4	Nature: rainforests and mangroves	3.790	3
Nature: rainforests and mangroves	4.541	4	Marine park: islands and reefs	4.007	4
Experience of another culture	4.746	5	Experience of another culture	4.136	4
Attractions/Heritage sites	5.954	6	Duty Free shopping	4.713	4
Sports: golf, tennis and watersports	6.007	6	Attractions/Heritage sites	5.362	5
Duty Free shopping	6.232	7	Sports: golf, tennis and watersports	6.813	8
Entertainment/Nightlife	7.189	8	Entertainment/Nightlife	6.903	8
Business Activity	8.977	10	Business Activity	9.344	10

FIRST TIME TO LANGKAWI	Mean	Median	BEEN TO LANGKAWI BEFORE	Mean	Median
Relaxation	1.997	1	Relaxation	2.044	2
Beaches and sea	2.319	2	Beaches and sea	2.269	2
Marine park: islands and reefs	3.954	4	Marine park: islands and reefs	3.639	4
Experience of another culture	4.343	4	Nature: rainforests and mangroves	3.824	4
Nature: rainforests and mangroves	4.894	4.5	Duty Free shopping	4.465	4
Attractions/Heritage sites	6.236	6	Attractions/Heritage sites	4.850	5
Sports: golf, tennis and watersports	6.287	6	Experience of another culture	4.903	5
Duty Free shopping	6.413	7	Sports: golf, tennis and watersports	6.232	7
Entertainment/Nightlife	6.952	8	Entertainment/Nightlife	7.369	8
Business Activity	9.553	10	Business Activity	8.265	10

Table II. Chi-squared tests of independence to assess whether certain reasons for choosing to visit Langkawi, (shaded means of Table I above), are dependent on key divisions.

CHOICE			
Westerners Vs Asians			
Marine park: islands and reefs			
	1 to 3	4+ or 0	Total
Westerners	46	100	146
Asians	53	51	104
Total	99	151	250
(Chi squared = 9.9, df = 1, P < 0.005)			
Duty Free shopping			
	1 to 3	4+ or 0	Total
Westerners	21	125	146
Asians	41	63	104
Total	62	188	250
(Chi squared = 19.8, df = 1, P < 0.005)			

Attractions/Heritage sites			
	1 to 3	4+ or 0	Total
Westerners	12	134	146
Asians	31	73	104
Total	43	207	250
(Chi squared = 19.5, df = 1, P < 0.005)			
Experience of another culture			
	1 to 3	4+ or 0	Total
Westerners	66	80	146
Asians	18	86	104
Total	84	166	250
(Chi squared = 21.3, df = 1, P < 0.005)			
4 & 5 star hotel guests Vs other accommodation			
Duty Free shopping			
	1 to 3	4+ or 0	Total
4 and 5 star hotels	21	102	123
Other accommodation	41	86	127
Total	62	188	250
(Chi squared = 7.3, df = 1, P < 0.01)			
University/Professional Vs School/Vocational			
Duty Free shopping			
	1 to 3	4+ or 0	Total
University / Professional	32	134	166
School / Vocational	30	54	84
Total	62	188	250
(Chi squared = 7.8, df = 1, P < 0.01)			
First time to Langkawi Vs Been to Langkawi before			
Nature: rainforests and mangroves			
	1 to 3	4+ or 0	Total
First time to Langkawi	43	117	160
Been before	31	59	90
Total	74	176	250
(Chi squared = 1.3, df = 1, NS)			

Duty Free shopping			
	1 to 3	4+ or 0	Total
First time to Langkawi	31	129	160
Been before	31	59	90
Total	62	188	250
(Chi squared = 7.6, df = 1, P < 0.01)			
Business Activity			
	1 to 3	4+ or 0	Total
First time to Langkawi	1	159	160
Been before	8	82	90
Total	9	241	250
(Chi squared = 12.9, df = 1, P < 0.005)			
Attractions/Heritage sites			
	1 to 3	4+ or 0	Total
First time to Langkawi	19	141	160
Been before	24	66	90
Total	43	207	250
(Chi squared = 10.0, df = 1, P < 0.005)			

Table III. A chi-squared test of independence to assess the possible significance of the Western/Asian split for influencing the choice of natural categories key to ecotourism

Ecotourism Potential			
	3 Eco in top 4	Not	Total
Westerners	70	76	146
Asians	34	70	104
Total	104	146	250
(Chi squared = 5.5, df = 1, P < 0.025)			

Table IV. The means and medians of the tourist’s rank of what they have ‘experienced and enjoyed,’ arranged in order of ascending means

What have you experienced and enjoyed most whilst staying in Langkawi?					
ASIANS	Mean	Median	WESTERNERS	Mean	Median
Beaches and sea	2.419	2	Relaxation	1.780	1
Relaxation	2.425	2	Beaches and sea	2.617	2
Marine park: islands and reefs	3.237	2.75	Experience of another culture	3.961	4
Duty Free shopping	3.966	3	Nature: rainforests and mangroves	4.500	4
Nature: rainforests and mangroves	4.535	5	Marine park: islands and reefs	4.894	5
Attractions/Heritage sites	4.768	4	Attractions/Heritage sites	6.200	6
Experience of another culture	5.407	5	Duty Free shopping	6.208	6
Sports: golf, tennis and watersports	5.868	6	Sports: golf, tennis and watersports	6.589	7
Entertainment/Nightlife	7.030	8	Entertainment/Nightlife	7.516	8
Business Activity	8.448	10	Business Activity	9.366	10
FOUR AND FIVE STAR HOTELS	Mean	Median	OTHER ACCOMMODATION	Mean	Median
Relaxation	2.084	1	Relaxation	1.962	1
Beaches and sea	2.727	2	Beaches and sea	2.372	2
Marine park: islands and reefs	4.112	3	Marine park: islands and reefs	4.278	4
Experience of another culture	4.113	4	Duty Free shopping	4.661	4
Nature: rainforests and mangroves	4.267	4	Nature: rainforests and mangroves	4.747	5
Attractions/Heritage sites	5.733	5.5	Experience of another culture	4.918	5
Duty Free shopping	5.977	6.5	Attractions/Heritage sites	5.506	5
Sports: golf, tennis and watersports	6.247	6	Sports: golf, tennis and watersports	6.344	7
Entertainment/Nightlife	7.342	8	Entertainment/Nightlife	7.291	8
Business Activity	9.000	10	Business Activity	9.000	10

UNIVERSITY / PROFESSIONAL	Mean	Median	SCHOOL / VOCATIONAL	Mean	Median
Relaxation	1.997	1	Relaxation	2.080	2
Beaches and sea	2.504	2	Beaches and sea	2.618	2.25
Marine park: islands and reefs	4.254	4	Experience of another culture	3.983	4
Nature: rainforests and mangroves	4.484	4	Marine park: islands and reefs	4.089	3.25
Experience of another culture	4.766	4	Nature: rainforests and mangroves	4.579	4
Duty Free shopping	5.467	6	Duty Free shopping	4.931	5
Attractions/Heritage sites	5.846	6	Attractions/Heritage sites	5.178	5
Sports: golf, tennis and watersports	6.199	7	Sports: golf, tennis and watersports	6.529	7
Entertainment/Nightlife	7.500	8	Entertainment/Nightlife	6.898	8
Business Activity	8.929	10	Business Activity	9.104	10
FIRST TIME TO LANGKAWI	Mean	Median	BEEN TO LANGKAWI BEFORE	Mean	Median
Relaxation	1.989	1	Relaxation	2.090	2
Beaches and sea	2.626	2	Beaches and sea	2.384	2
Experience of another culture	4.122	4	Nature: rainforests and mangroves	3.708	3
Marine park: islands and reefs	4.405	4	Marine park: islands and reefs	3.815	4
Nature: rainforests and mangroves	4.966	5	Duty Free shopping	4.180	4
Attractions/Heritage sites	5.774	5	Experience of another culture	5.223	5
Duty Free shopping	5.913	6	Attractions/Heritage sites	5.349	5
Sports: golf, tennis and watersports	6.458	7	Sports: golf, tennis and watersports	6.032	6
Entertainment/Nightlife	7.480	8	Entertainment/Nightlife	7.034	8
Business Activity	9.505	10	Business Activity	8.131	10

Table V. Chi-squared tests of independence to assess whether certain factors important to the experience and enjoyment of Langkawi, (shaded means of Table VI above), are dependent on key divisions.

EXPERIENCE			
Westerners Vs Asians			
Marine park: islands and reefs			
	1 to 3	4+ or 0	Total
Westerners	40	106	146
Asians	45	59	104
Total	85	165	250
(Chi squared = 7.3, df = 1, P < 0.01)			
Duty Free shopping			
	1 to 3	4+ or 0	Total
Westerners	24	122	146
Asians	42	62	104
Total	66	184	250
(Chi squared = 19.1, df = 1, P < 0.005)			
Attractions/Heritage sites			
	1 to 3	4+ or 0	Total
Westerners	8	138	146
Asians	30	74	104
Total	38	212	250
(Chi squared = 25.0, df = 1, P < 0.005)			
Experience of another culture			
	1 to 3	4+ or 0	Total
Westerners	56	90	146
Asians	14	90	104
Total	70	180	250
(Chi squared = 18.4, df = 1, P < 0.005)			
4 & 5 star hotel guests Vs other accommodation			
Duty Free shopping			
	1 to 3	4+ or 0	Total
4 and 5 star hotels	25	98	123
Other accommodation	41	86	127
Total	66	184	250
(Chi squared = 4.0, df = 1, P = 0.05)			
First time to Langkawi Vs Been to Langkawi before			
Nature: rainforests and mangroves			
	1 to 3	4+ or 0	Total
First time to Langkawi	39	121	160
Been before	36	54	90
Total	75	175	250
(Chi squared = 6.7, df = 1, P < 0.01)			

Duty Free shopping			
	1 to 3	4+ or 0	Total
First time to Langkawi	35	125	160
Been before	31	59	90
Total	66	184	250
(Chi squared = 4.4, df = 1, P < 0.05)			
Business Activity			
	1 to 3	4+ or 0	Total
First time to Langkawi	1	159	160
Been before	6	84	90
Total	7	243	250
(Chi squared = 5.4, df = 1, P < 0.025)			
Experience of another culture			
	1 to 3	4+ or 0	Total
First time to Langkawi	53	107	160
Been before	17	73	90
Total	70	180	250
(Chi squared = 5.5, df = 1, P < 0.025)			

Table VI. A chi-squared test of independence to assess the possible significance of the Western/Asian split for influencing the experience and enjoyment of natural categories key to ecotourism

Ecotourism Potential			
	3 Eco in top 4	Not	Total
Westerners	52	94	146
Asians	34	70	104
Total	86	164	250
(Chi squared = 0.29, df = 1, NS)			

ACRONYMS

ASEAN	Association of Southeast Asian Nations
CSD	Commission on Sustainable Development
DOFM	Department of Fisheries Malaysia
IMT-GT	Indonesia, Malaysia, Thailand Growth Triangle
IWK	Indah Water Konsortium
EIA	Environmental Impact Assessment
GATS	General Agreement on Trade in Services
GDP	Gross Domestic Product
GNP	Gross National Product
KL	Kuala Lumpur
LADA	Langkawi Development Authority
MDL	Majlis Daerah Langkawi (Local Authority)
NGO	Non-governmental organisation
WSSD	World Summit on Sustainable Development
WTO	World Tourism Organisation
WWF-M	World Wide Fund for Nature – Malaysia

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