



ECOTOURISM



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**INTERNATIONAL CONFERENCE
THE IMPLEMENTATION OF ECOTOURISM**

JULY 18 - 21, 1996

**INSTITUTE OF ECOTOURISM
SRINAKHARINWIROT UNIVERSITY**

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PROCEEDING

2nd INTERNATIONAL CONFERENCE THE IMPLEMENTATION OF ECOTOURISM

EDITED BY

Payom Dhamabutra

Vallipan Stithyudhakarn

Samang Hirunburana

**INSTITUTE OF ECOTOURISM
SRINAKHARINWIROT UNIVERSITY**

1997 INSTITUTE OF ECOTOURISM

First edition

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INSTITUTE OF ECO-TOURISM

The Institute of Ecotourism, Srinakharinwirot University, Bangkok, Thailand was established on June 17, 1994 for the purpose of encouraging ecotourism studies. The Institute aims to develop ethics and standards for ecotourism, promote understanding, appreciation and conservation of the natural and cultural environments visited, and facilitate interaction between tourists, host communities, the tourism industry, government and conservation organizations.

The Institute promotes research in ecotourism : a project entitled “Master of Ecotourism Management” is designed to search for an appropriate way to develop trained professionals through action research in the area of ecotourism, incorporating socio-cultural, economic and environmental values into the practice of tourism. It is also hoped that the Institute will become a regional center eventually providing training in ecotourism management for countries in the Sub-Maekhong and other countries in Asia Pacific region.

OBJECTIVES

1. To establish national, regional and international network in ecotourism and communication within the network.
2. To establish database of information and researches in ecotourism.
3. To implement ecotourism in Thailand and Asia Pacific region.
4. To establish educational and training program in ecotourism.

ACTIVITIES

The Institute of Ecotourism has activities in the following areas:

1. NETWORKING AND COMMUNICATION

- Link between Institutions on the regional and international scale
- Contact World Conservations and Environmental Law Commission for collaboration and assistance
- Increase awareness of databases between links in the network
- Hold international/regional conferences

2. DATABASES OF INFORMATION AND RESEARCHES

- Assemble database of expertise, make a list of publications
- Establish a database on ecotour projects
- Promote several case studies and publish results/impact
- Work to enhance biodiversity conservation
- Research to address critical issues such as “carrying capacity, tolerance limits, perceived level of environmental risk, acceptable level of social/cultural changes etc.”
- Push the government for policy in “Green Accounting”

3. IMPLEMENTATION PLANS

- Develop “Green Tourism”
- Develop guidelines/checklist for evaluating ecotours
- Encourage the transfer of environmentally sound technologies for sustainable use of ecological and biological processes
- Develop model legislation on Tourism
- Relate tourism activities to spiritual/religious values

4. EDUCATION AND TRAINING

- Propose education development plan
- Coordinate a community as well as service industry education action plan to spread and create understanding for environmental issues and biological process
- Run SWU diploma and undergraduate course in ecotourism
- Hold workshops/training for tour and hotel operators
- Educate local community, tourists, and tourism related personnels
- Upgrade methods of tour operators



HOSTS



SWU is a public university under the jurisdiction of the Ministry of University Affairs. Financial support from the government is almost the total source of funding. Policy is set by the Board of the University Council. The University is governed by the Administrative Board. The Faculty Senate has an advisory role.

The University is concerned with the development of man as an individual and social being. It endeavours to encourage the pursuit of knowledge. SWU also aims to increase the student's capacity to earn a living and to be self-reliant in the modern world by developing effective communication skills, critical thinking, leadership and social responsibility.

The University is also concerned with developing the student's appreciation of Thai culture and attitude, and the importance of achieving a balance and rapport between all sections of community--both urban and rural--as an ideal fundamental to the Thai way of life.

UNESCO, The United Nations Educational, Scientific and Cultural Organization, is a Specialized Agency of the United Nations, comprising of 182 Member States.

Formed to keep a watchful eye on developments in the world and help Member States find answers to the key problems that beset our societies in the areas within its competence, UNESCO is involved in a broad range of activities. Thus the term 'science' also covers areas belonging to both the social and human sciences and although its acronym makes no mention of communication infrastructure.

UNESCO's Constitution says that 'since wars begin in the minds of men, it is in the minds of men that the defences of peace must be constructed'. Building these defences through international intellectual co-operation remains UNESCO's prime objective.

DTEC



Established by Royal Decree in 1950, and now one of the agencies under the Office of the Prime Minister. DTEC is responsible for all aspects of the technical cooperation Thailand receives from external cooperation partners. Since 1963 DTEC had also been responsible for the technical cooperation Thailand provides to other developing countries, as well as technical cooperation among developing countries. DTEC has worked closely with Thailand's cooperating partners in supporting projects through all phases of their development from the planning to final evaluation stage.

Having solved many of her own development problems, Thailand is now sharing her experience with other developing countries. Thailand has offered appropriate technological cooperation to her neighbouring countries : Laos, Cambodia, Vietnam and Myanmar. At present, over 200 million baht has been provided to other developing countries under the Thai International Cooperation Program for Technical Cooperation.



TAT

First founded in 1959, TAT's major function is to develop tourism in such a way that benefit comes to the nation as a whole, especially to the rural population. Equally important is its role to conserve and manage the national environmental resources. TAT also thinks that it is of vital importance the tourists feel a sense of security and safety. They also have a good impression of Thailand through the warmth, hospitality and friendliness of the Thai people.



The Australian International Development Assistance Bureau (AIDAB) is responsible for managing Australia's development cooperation program. The principal objective of the Australian development cooperation program is to promote the sustainable economic and social advancement of developing countries. In this way, the program helps to strengthen the links between Australia and the peoples of recipient countries by fostering a mutually beneficial relationship.

ACKNOWLEDGEMENTS

This International Conference on Ecotourism would not have been possible, or as successful, without the cooperation and assistance of the following :

- OFFICE OF ENVIRONMENTAL POLICY AND PLANNING
- THE ROYAL FORESTRY DEPARTMENT
- SRINAKHARINWIROT UNIVERSITY ALUMNI (PATHUMWAN)
- THE THAI MILITARY BANK
- THE METROPOLITAN TRANSPORTATION CO. LTD.
- GENERAL SKUNN STITHYUDHAKARN
- KHUNYING WANNA SIRIWATHANAPAKDEE
- BOOK CENTER, THAMMASAT UNIVERSITY
- UNIVERSITY OF RHODE ISLAND U.S.A.
- GRIFFITH UNIVERSITY
- THE UNIVERSITY OF NOTRE DAME AUSTRALIA
- THE ECOTOURISM SOCIETY U.S.A.
- SEA CANOE THAILAND
- SIAM SAFARI THAILAND
- THE ELECTRICITY GENERATING AUTHORITY OF THAILAND
- IUCN NEPAL
- MAHIDOL UNIVERSITY THAILAND
- UNIVERSITY OF NEW CASTLE AUSTRALIA
- NANYANG TECHNOLOGICAL UNIVERSITY, SINGAPORE
- COASTAL RESOURCES MANAGEMENT PROJECT, PHILIPPINES
- PRO-EN CONSULTANTS LTD THAILAND
- TURISMO THAI

**REPORT OF DR.POTE SAPIANCHAI,
PRESIDENT, SRINAKHARINWIROT UNIVERSITY**

Your Excellency, Distinguished participants and Guests of Honour,

I am very pleased and honored in having the presence of His Excellency, Mr. PONGPHON ADIREKSAN, Minister to the Prime Minister's Office, to preside over and open Srinakharinwirot University 2 nd International Conference on: THE IMPLEMENTATION OF ECOTOURISM : PLANNING, DEVELOPING AND MANAGING FOR SUSTAINABILTY.

The International Conference on Ecotourism in the Asia Pacific Region is a collaboration between three institutions in Thailand, namely : The Institute of Ecotourism. Srinakharinwirot University, The Tourism Authority of Thailand and The Department of Technical and Economic Cooperation.

The Institute of Ecotourism was established on June 17 , 1996 for the purpose of encouraging ecotourism studies. It aims to develop ethic and standard for ecotourism and facilitate interaction between tourists, host communities, the tourism industry, government and conservation organizations. It is also hoped that Srinakharinwirot University will become a regional centre, eventually providing training in ecotourism management for countries in the Asia Pacific Region.

The conference will enable academics and policy makers to freely draw upon the experiences of not only their own countries but also those of their neighbors leading to an exchange of lessons learned and the development of new solutions for old problems. Given the many pressures that our environment faces in these times, such a conference is therefore thought to be particularly relevant and timely.

Participants and invited guests joining us today include representatives from many countries including the United States, Australia, China, Nepal, Pakistan, India, Vietnam, Laos, Cambodia, Myanmar, Indonesia, Malaysia, Philippines, Micronesia and Thailand. There are also representatives from Embassies and the Royal Thai Government, all of whom, I am sure, are ready to benefit from the recommendations that will result from the conference.

Finally, I would like to express a special thanks to both the Department of Technical and Economic Cooperation and the Tourism Authority of Thailand, who have offered both their financial and moral support in the organization of this important international conference. Srinakharinwirot is gratified by their and your commitment to the important issues surrounding the preservation of our environment through the promotion of ecotourism, thank you all very much for joining us here.

It is my pleasure now to invite Mr. Pongphon Adireksan, the Minister on the Prime Minister's Office to declare this international conference open.

OPENING ADDRESS
2 ND INTERNATIONAL CONFERENCE
THE IMPLEMENTATION OF ECOTOURISM:
PLANNING, DEVELOPING AND MANAGING FOR SUSTAINABILITY
JULY 18 - 21, 1996 THE AMBASSADOR HOTEL
BANGKOK, THAILAND

Excellency, Mr. President, Honored Guests, Ladies and Gentlemen,

I am most honored and delighted to have the privilege of making the opening remark for the 2 nd International Conference on :THE IMPLEMENTATION OF ECOTOURISM:PLANNING, DEVELOPING AND MANAGING FOR SUSTAINABILITY. This conference is participated by international experts. May I here extend a warm welcome to them and all participants to Thailand.

Tourism is the fastest growing industry in the world and the future of tourism lies in the emerging form of alternate tourism such as ecotourism. Ecotourism is part of the sustainable development which needs careful environmental, economic and social management. When ecotoursim is planned as a tool for sustainable development, it can indeed make an important contribution to the welfare of both the visited and the visitors and every aspect of the environment governments, tour operators, conservation groups and local communities must plan together where ecotourism sites should be established and how they should be managed.

Properly implemented, ecotourism can integrate conservation and rural development by helping to protect valuable natural areas by providing revenues for planning and management, stimulating economic development through tourism expenditures, and providing jobs and markets for local goods. Ecotourism has the potential to help economic development at both the local and the national level.

The need for planning is paramount and this has been recognized by all. I would like to emphasize that realization and importance have always been attached to the matter by the Thai government, with distinct policy set up on environmental conservation.

If the whole image of tourism could by changed to ecotourism, tourists would be more responsible for and realize that they are all part of the environment.

The 2 nd International Conference is a good omen net only to the tourism industry in Thailand, but also to the whole region. We will cooperate for a common objective and that is the sustainable tourism.

Thank you.

Ecotourism in Southeast Asia

A second international ecotourism conference focusing on Southeast Asia was held in Bangkok, Thailand from 18-21 July 1996. Entitled 'The Implementation of Ecotourism: Planning, Developing and Managing for Sustainability' it was hosted by the Institute of Ecotourism, Srinakharinwirot University, Bangkok in Cooperation with the Tourism Authority of Thailand (TAT) and The Department of Technical and Economic Cooperation (DTEC).

The aim of the conference was to build on the foundations of the first Asian ecotourism conference, which was held in February 1995 on the theme of 'Ecotourism: Concept, Design and Strategy'.¹ The second conference attracted approximately 150 [check] delegates from twenty [check] countries and was also attended by 80 [check] Thai students. The four day conference included two days of intensive sharing in which 34 [check] papers were presented and a choice of several two-day field trips to examine eco and cultural tourism attractions in central Thailand.

In the two-day speakers' sessions a number of presenters were from developed countries especially Australia, which is considered to be at the forefront of ecotourism development globally. These presentations were complemented by a number of Country Case Studies in which ecotourism initiatives in a number of Asian countries were highlighted. Finally, two panel discussions were held which led to a more intensive sharing on several topics.

The conference was opened by Mr Pongpol Adireksarn, Minister in Charge of Tourism, The Prime Minister's Office. The first Keynote speech was then given by Mr Seree Wangpaichitre, Governor of the TAT on 'The Approach to Ecotourism in Thailand'. He spoke about TAT's recently released 'Policies and Guidelines: Development of Ecotourism (1995-1996) of the TAT'.² The document outlines TAT's role in the development of ecotourism in Thailand as a way of promoting sustainable development. This overall goal will be achieved through eight main policies including the 'conservation and renovation of cultural heritage, natural resources, and the environment so as to maintain the Thai identity'. Others focus on the development of facilities and services, the provision of safety measures, the promotion of domestic tourism, and the support of public participation in tourism development. To implement this ecotourism development program the Thai government has allocated B66m (L1.5m) over the next few years. The advances made in tourism in Thailand were then illustrated by the showing of a TAT video 'Treasures of Thailand'.

A number of papers were presented commencing with 'Ecotourism and its Role in Sustainable Development' (Costas Christ, The Ecotourism Society, USA) in which he stressed the importance of partnerships between tourism developers and local communities in order to foster eco and cultural tourism. Ross Dowling (Ecotourism Association of Australia) then described 'The Implementation of Ecotourism in Australia' with a recent government report identifying 600 ecotourism operators employing 4500 full time equivalent staff generating a turnover of AUD250m per annum. Two further Australian contributions were made on 'Environmental Impact Assessment for Tourism Development in

Australia' (Ralf Buckley, The International Centre for Ecotourism Research, Griffith University) and 'Heritage Conservation Planning Controls in Victoria, Australia' (Justin Francis, Cultural and Ecotourism Consultant, Victoria). The two papers highlighted the role of ecotourism in achieving sustainable tourism and the need for cultural components to be included in ecotourism.

A panel discussion on 'Ecotourism Integrated Approaches for Ecotowns and Ecocities' chaired by Ralf Buckley, identified the role that the principles of ecotourism can have in fostering the overall greening of tourism. It also debated the notion of whether or not ecotourism can be carried out in towns or cities because of its definitional characteristic of being needed to be carried out in natural areas. This was followed by 'Sustainable Tourism Development in Cultural World Heritage Sites' by Richard Engelhardt (UNESCO) who illustrated the importance of cultural tourism considerations through a case study of Hue, Vietnam.

The latter part of the first days presentations comprised three parallel Country Case Study sessions of approximately six speakers each. The presentations included many from Thailand focusing on resource protection and tourism development. Resource protection papers included 'The Electricity Generating Authority of Thailand's Environmental program' (Yves Lemoine), 'Environmental Impact' Assessment (EIA) as a Component of Ecotourism in Thailand (David Leoy, Pro-En Consultants), 'Coral Reef Preservation' (Surapol Chootiabandit (Chulalong Korn University) and Hornbill Studies in Thailand' (Pilai Poonswad, Mahidol University).

Papers focusing on ecotourism activities in Thailand included 'Biking and Ecotourism in Thailand' (Sithiporn Kutranon), 'SeaCanoe Thailand' (John Gray) and 'Siam Safari Nature Tours' (Robert Greifenberg). Ecotourism development papers presented focused on 'Ko Taen Island' (Chaiyut Klinsukont), 'Khao Sok National Park' (Jo Hardman) and 'Eastern Thailand' (Anandha Sirisun). [Thai Wa?] In addition a paper was presented on 'The Greening of Dusit Thane Hotel' (Champon Chavasiri).

Several papers were also given by presenters from Malaysia, Nepal, Pakistan and Micronesia. They were on 'The Training of Local Ecotourism Guides' (Ahmad Shuib, Universiti Pertanian Malaysia), 'Development of Ecotourism in Protected Areas in Peninsular Malaysia' (Abdullah Mohd, Universiti Pertanian Malaysia), 'Environmental Considerations for the Protection of Marine Ecosystems in Developing Countries' Ziaur Rehman (NED University, Pakistan), 'Lessons Learned from the Implementation of Ecotourism in Annapurna Conservation Area' (?) and 'Ecotourism in Micronesia (Ahser Edward, College of Micronesia).

The papers given in these sessions were variable in quality but overall they demonstrated a breadth of topics representing a range of people from industry, government and tertiary education. The use of slides enhanced many of the presentations enabling participants to see the natural, cultural and built features being developed for ecotourism in a sustainable manner.

The second day of the conference comprised a number of presentations beginning with 'Tourism Transitions and Professional Interventions: The Asian

Landscape and Ecotourism' (Russell Smith, Nanyang Technological University, Singapore). A paper entitled 'Community Based Tourism and Marine Park Management' by Gerald Krausse (University of Rhode Island, USA) presented the outline of a model of participatory planning which allows the community to become involved in marine protected areas. This theme was complemented by the need for natural environmental planning in a paper 'Environmental Guidelines for Coastal Tourism Development in Tropical Asia (Alan White, Coastal Resources Management Project, Philippines).

Three Australian speakers then presented aspects of their ecotourism research and development on 'Regional Development Planning Strategies' (Ross Dowling), 'Environmental Auditing of Ecotour Operators (Ralf Buckley) and 'Ecotourism Education' (Betty Weiler). This last paper illustrated the strength of Australian ecotourism and provided an excellent backdrop with which to assess a later presentation on 'Ecotourism Education in Cambodia (Neth Barom, Royal University of Phnom Penh).

'Ecotourism Programs in Myanmar' (H.E. Brig-Gen Tin Aye, Minister of Hotels and Tourism, Union of Myanmar) and 'Green Accommodation in Myanmar' (U Naing BWA, Directorate of Hotels and Tourism) provided useful insights into the development of tourism in this country as well as to their desire to foster ecotourism as it once again opens up to international markets.

The final session of the conference consisted of an international panel discussion on 'The Future of Ecotourism in Asia'. A number of recommendations were made in relation to each of five underlying themes. The first theme was to establish networks at international, national and regional levels. Recommendations put by the panel included the implementation of a regional network of ecotourism organisations including Thailand, Indonesia, Philippines, Nepal, the Institute of Ecotourism to publish a regional newsletter and establish a data base of national, Asian region and international experts, ensure that the 3rd Ecotourism Conference has a far greater 'Thai' content with input from TAT, RFD and operators, and to foster ecotourism information and training seminars within countries at the regional level.

It also suggested the establishment of ecotourism research and data bases. carrying capacities for (AW) natural and cultural ecotourism sites. Another key point raised was to implement plans and strategies through the Implementation of a planning process which accommodates all major players. Other suggestions made include the need to limit the focus of the planning area and to make any plans responsive to needs. The establishment of criteria for site developments eg: site selection, landscaping, waste management was stressed as was the need for ecotourism planning to be integrated into overall tourism, development and conservation planning strategies.

The need to establish educational and training programs was recommended through the implementation of partnerships of 'overseas experts' to train local people who then train others. It was also suggested that a handbook for community based ecotourism management, especially for the coastal communities of Thailand, be prepared. A key recommendation was for the establishment of best practice models such as SeaCanoe International.

Finally it was suggested that Southeast Asian nations foster community based ecotourism development to empower local communities. Specific recommendations included the organisation of a community-based tourism enterprises workshop and the fostering of joint ventures between local communities and other partners.

The two days of formal conferencing were followed by another two days of field trips. These were to either Kanchanaburi in western Thailand or to Pattaya and Rayong in the Gulf of Thailand. The first field trip illustrated many aspects of ecotourism including its emphasis on the natural environment, with visits to mountains, rivers and caves, as well as the cultural environment - the Jeath War Museum near the Bridge on the River Kwai and the interaction with the Mon people in the Ethnic Mon Tribal Village. The emphasis on the second field trip was on education and interpretation with visits to the Khao Kheo Open Zoo at Chonburi, the Marine Aquarium at Burapha University and Khao Laem Ya - Mu Ko Samet Marine National Park. While in more developed countries some of these features would not be considered as ecotourism attractions, it is important to note that for the Thai people these represent the interface between tourism and the environment.

Overall the conference again helped place ecotourism on the public agenda for tourism development in Thailand and it succeeded in laying a base for information sharing between countries with advanced ecotourism industries such as Australia and the USA and the Asian participants. More importantly it also brought together tourism operators, decision-makers and academics in the field from a number of Asian countries. However, a key failing of the conference was the lack of input from two leading players in the field in Thailand. Conspicuous by their absence was input from and the Department of Conservation, Kasetsart University³, Bangkok as well as the Royal Forestry Department (RFD), National Parks Division.⁴ Both of these institutions are key players in the development of ecotourism in Thailand through their contributions of research and planning (Kasetsart) and ecotourism product (RFD). The conference lacked the practical considerations and applications which these two could have easily addressed to the greater benefit of all participant countries. It is hoped that this aspect will be addressed in future conferences.

The success of this second conference on Ecotourism in Asia is a reflection of the enthusiasm and determination of two remarkable Thai women. They are Professor Vallipan Stithyudhakarn, Deputy Vice President for International Relations, Srinakharinwirot University, Bangkok, and Chairman of the Conference Organising Committee, and Associate Professor Payom Dhamabutra, Vice Director, Institute of Ecotourism, Srinakharinwirot University. Both women have taken the Institute into the forefront of ecotourism activities in Asia through their successful convening of two international conferences on ecotourism in Bangkok (in February 1995 and July 1996), the hosting of a national workshop on 'The Greening of Thai Hotels' (August 1995), the development of the ecotour nature trail 'A Day in Thailand's Guerilla Past', in Phu Hin Rong Kla National Park, in northern Thailand, and through the current development of Diploma in Ecotourism Management which it hopes to launch in 1997.

The future of ecotourism in Thailand looks bright, especially through the influence of The Institute and its leaders.

The proceedings of the first conference held in 1995 are already on sale and details of the availability and cost of proceedings of the second conference may be obtained from The Institute of Ecotourism, Srinakharinwirot University, Pathumwan Campus, Henri Dunant Road, Bangkok, Thailand. Ph: (+662 252 7055) Fax: (+622 254 4599).

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**2nd INTERNATIONAL CONFERENCE
THE IMPLEMENTATION OF ECOTOURISM
PLANNING, DEVELOPING AND MANAGING
FOR SUSTAINABILITY
JULY 18 - 21, 1996**

THE AMBASSADOR HOTEL BANGKOK, THAILAND

**HOSTED BY THE
INSTITUTE OF ECOTOURISM
SRINAKHARINWIROT UNIVERSITY
PRATHUMWAN CAMPUS
BANGKOK**

**Recommendations made at a Panel Discussion at the Close of
the Conference on The Desirable Future and Action Plan
for Ecotourism in the Asia Pacific Region**

Chair of Panel:

**Dr Ross Dowling
Professor Ralf Buckley
Professor Gerald Krausse
Dr Alan White
Dr Betty Weiler
Dr Russell Arthur Smith
Dr Pradech Phayakwichian
Dr Abdullah Mohd
Mr Costas Christ
Mr Justin Francis**

**Australia
Australia
USA
Phillippines
Australia
Singapore
Thailand
Malaysia
USA
Australia**

CONFERENCE OBJECTIVES

- 1 To establish networks at international, national and regional levels.
- 2 To establish ecotourism research and data bases.
- 3 To implement plans and strategies.
- 4 To establish educational and a training programmes.
- 5 To determine international standards.
- 6 To foster community - based ecotourism development.

1 *To establish networks at international, national and regional levels.*

- Implementation of a regional network of ecotourism organisations including Thailand, Indonesia, Philippines, Nepal etc (cc)
- Institute of Ecotourism to publish a regional newsletter and establish a data base of national, Asian region and international experts (RD)
- Ensure 3rd Ecotourism Conference has a far greater 'Thai' content with input from TAT, RFD and operators (RD).
- Foster ecotourism information and training seminars within countries at the regional level. (RD).

2 *To establish ecotourism research and data bases.*

- Foster research into tourism trends, ecological baselines, environmental (AM) impacts, carrying capacity etc (RB).
- Establish research networks (funded by tourism authorities and carried out by universities (RB).
- Establish carrying capacities for (AW) natural and cultural ecotourism sites (RE).

3 *To implement plans and strategies.*

- Implementation of a planning process which accommodates all major (AW) players (RE).
- Limit focus of planning area to make plan responsive to needs.
- Establish criteria for site developments eg: site selection, landscaping, waste management, etc (AW).
- Ecotourism planning to be integrated in overall tourism, development and conservation planning strategies (GK).
- Implement the National Ecotourism Policy in Thailand (PP).
- Establish common regional strategies and tactics (PP).
- Recognise urban centres as repositories of resources for the development of sustainable tourism (RS)
- Utilise various approaches to planning such as 'structure' and 'local area' planning (RS).

4 *To establish educational and training programs.*

- The Institute of Ecotourism should hold a discrete 3-4 day workshop for its neighbouring Southeast Asian Nations in the early part of 1997 (RD).
- Implementation of partnerships if 'experts' who train local people to train others (BW).
- Prepare a handbook for community based ecotourism management (for the coastal communities of Thailand) (GK).
- Foster the changing of attitudes of both host communities (local people) and visitors (ecotourists) - to encourage positive cultural and environmental behaviour (AM).

5 *To determine international standards.*

- Establish best practice models such as Sea Canoe International (BW).
- To recognise the importance of cultural and heritage conservation in ecotourism (GE) (JF).

6 *Community Based Ecotourism Development.*

- Foster community based ecotourism development to empower local communities (JF) (BW) (RE) (CC).
- Organise a community - based tourism enterprises workshop (CC).
- Ensure 'authenticity' of natural and cultural products (RE).
- Foster equitable opportunities for ecotourism participants (AM).
- Foster joint ventures between local communities and other partners (CC).

Keynote Address

"Ecotourism in Thailand"

Thursday 18 July, 1996, Ambassador Hotel, Bangkok

Mr. Seree Wangpaichitr

Governor

Tourism Authority of Thailand

Distinguished guests, ladies and gentlemen,

This is our second international seminar on ecotourism. The first one was conducted during 6-8 February, 1995 under the theme of "Ecotourism: Concept Design and Strategy." During this meeting, a technical workshop and a study tour are to be featured under the theme of "The Implementation of Ecotourism: Planning, Developing and Managing for Sustainability." Taking into consideration the theme of today's seminar, we can easily notice some development and concrete implementation.

In my special address for this meeting, I will speak about 2 important matters: Sustainable Development and Ecotourism. Both are related and rely on each other. However, it must be first understood that they are not quite the same. I will later give you my comments about these in full detail.

The development of the tourism industry in the past indicates that the tourism and travel business is the largest industry in the world, equivalent to 6% of the international mass production which amounted to Bt77,500 billion in 1992. This fact leads to a conclusion that the tourism industry has played a vital role in the economic development of many countries. However, tourism development in the past lacked good planning which

complied with the conservation of natural resources and the environment. The bad impacts and deterioration that followed brought about an excessive large amount of budget to revive and conserve them, and resulted in a decrease in the number of visitors and in tourism revenue. As a consequence, development strategies have been adjusted to focus on the summit target of economic and social development which is an attempt to create security, progress, a better quality of life and society, peace, and a decrease in the difficulties of the local people. To reach this target, sustainable development has to be enhanced.

Sustainable development supports the values that promote the standard, non-extravagant consumption of the resources within the capacity of an eco-system, on the basis of people-centred and community-based development which encourages the participation of the local people.

The United Nations Conference on Environment and Development, or Earth Summit, held in Rio de Janeiro, Brazil, has given a definition to sustainable tourism as the tourism that does not harm any kind of environment, no matter where the destination is, whether it is mass tourism or group tourism, in the city and rural area alike.

The definition of sustainable tourism as mentioned above necessitates an overall improvement of the whole system of the tourism industry. Tourist destinations have to be developed and managed appropriately. The standard of services should be upgraded. The quality of tourists is to be enhanced while local communities are to be reinforced. Sustainable tourism

does not reject nor obstruct mass tourism but focuses on the appropriate management of the tourism system which may emerge in the form of "Greening the Mass Tourism." This is now under TAT's consideration.

Ecotourism to which the whole world is now paying attention is one of the strategies for sustainability. The principles of ecotourism require that mutual benefits should be brought about to all parties involved. Tourist destinations should be appropriately developed while the industry itself has to generate knowledge and responsibility, focusing on the necessity of environmental protection, and for local communities to make their own decisions as well as to gain benefits from tourism.

What makes ecotourism to be widely accepted, is partly due to the fact that several tourist destinations around the world have been deteriorated by the over-consumption of visitors. Here are some ideal examples for case studies :

- In Southern African Rwanda, ecotourism has been developed in an attempt to attract tourists to see their mountain gorillas which were threatened with extinction by hunters.

Ecotourism contributes to the survival and protection of the endangered animal as well as to the development of local communities through tourism revenue.

- Tourism income is spent for the conservation of coral reefs in Caribbean countries.

The development of ecotourism is not easily accomplished within a short period of time since importance has to be attached to the management as well as efficiency and proper control. To develop ecotourism, the country should clearly identify its destinations, properly control the influx of visitors by focusing on area management through any of the following methods:

- Limit the influx of tourists through a permit system or advanced reservations to control the amount of tourists in compliance with the area's carrying capacity.
- Control of tourism types or activities.
- Application of strict regulations/rules.
- Treatment of garbage and waste water as well as the conservation of energy.

In dealing with ecotourism, all elements should be taken into consideration. Not only the attractions and the management as previously mentioned, but also marketing which is another element of great significance. To offer ecotourism for sale requires clarity. At present, ecotourism is being taken as a selling point in the marketing strategies. It has become a rubber seal stamped to certify the quality of the goods.

The Approach to Ecotourism in Thailand

Increasing interest is paid today to the significance of Ecotourism destination, including Thailand. As a major tourist destination, it is necessary for Thailand to lay the groundwork for the proper development in term of Ecotourism. This entails the involvement of many complementary sectors including the tourist areas, guides, sight-seeing programs, accommodation as well as the tourists themselves who must have a sense of responsibility and the local people who must have a role and receive economic gains.

1976 : The Beginning of an Ecotourism Concept in Thailand

The concept of an ecotourism was first introduced into the 1st National Tourism Development Plan back in 1976. However, it was only a broad outline dealing with ecotourism without details or clear direction. What was included in the Plan mainly involved an overall tourism development based on economic consideration.

Nevertheless the idea then did reflect the activities of the so-called special interest groups who preferred activities such as jungle trekking, bird-watching, scuba- diving and cultural tours. The number of tourists taking part in such programs was comparatively few.

It is therefore fair to say that beginning from 1976 ecotourism took root in Thailand with more responsible tourism paying greater importance to education- cum-pleasure programs. What was still lacking was the participation of the local people and the number of such tourists was still small. As far as the development of ecotourism was concerned, it was only the first step and a concept within the National Tourism Development.

1976 - 1992 : The Advent of Ecotourism Development

During the decade 1976 - 1986, tourism in Thailand achieved great success in term of earning and development. Increasing number of visitors came to Thailand every year resulting in the growth and expansion of revenue, the rate of employment and various segments in the industry. This reached the pinnacle in 1978, the highly successful Visit Thailand Year. During 1987 - 1992, the growth of tourism was such that revenue earned became the highest among other exports.

But economic returns aside, the development activities also created impact on the social and cultural environment in all major tourist areas including Pattaya, Phuket, Samui, Kanchanaburi and Chiang Mai. But such phenomena were also common in other destination and not limited to only Thailand.

Because of such environmental repercussion, attempt was made to put together the expensive lessons learned and come up with a concept of sustainable development plan. The subject of ecotourism was again put forward for consideration. The Tourism Authority of Thailand, as the agency directly responsible, has pushed for the proper study and research for the North and Northeast (1987-1990). The outcome of the research was not fully complete and further studies must be carried out. Nevertheless, the two research works may be considered as the advent of ecotourism approach in Thailand.

1993 - Present : Holistic Ecotourism in Thailand

To achieve a holistic ecotourism in Thailand requires the cooperation of many agencies from both the public and private sectors. The prevailing situation has aroused a great awareness among them. So far, some actions have been taken, including : -

Tourism Authority of Thailand

- During 1995 - 1996, TAT pushed for an ecotourism policy and development direction. The policy sets forth the actions to be undertaken by the different segments involved such as tourism area development, personnel development and tourist service development, for example.

- During 1996 - 1997, TAT, recognizing the importance and necessity for an ecotourism national policy which must be agreed to by all agencies concerned, will be stressing on the proper process and each step will have to be screened by joint meetings among all concerned, The outcome or consensus will be used as basis for the national ecotourism policy.

- TAT has set aside a budget of Baht 66 million to be used in some 79 projects on ecotourism development ranging from area development, studies and research, public relations to awareness campaigns. These activities will spread to almost all provinces in the country.

- Participation in international conferences on ecotourism will be supported by TAT which assigns its own staff to take part in such forums in order to enable them to keep up with the ever-increasing information and knowledge in this area.

- An ecotourism network in Thailand will be established which will place emphasis on both knowledge and services. The make-up of the network is now being considered and three choices are being looked into : an ecotourism national board, Thai ecotourism association or an ecotourism local committee.

Taking into consideration the country's high potential in the tourism industry, Thailand at present is anticipated to be a leading ecotourism nation in Southeast Asia. However, bearing this anticipation in mind, we will have to accelerate our goals further in order to fulfil our tasks. Just as I have already mentioned, it is not easy to accomplish the development of ecotourism in a short period of time. In addition, other more important factors are that strong determination and confidence will be required.

Currently there is some global confusion about ecotourism such as: "Ecotourism: old wine in a new bottle," "Ecotourism ethics or eco-sell," "Ecotourism is the latest buzzword," "Can ecotourism save the world?" These remarks and questions need clear answers, and the answers will be obtained only through the collaboration of all the parties involved around the world including all of you here. Thank you.

Second International Conference on Implementation of Ecotourism
Institute of Ecotourism, Srinakharinwirot University
Bangkok, Thailand
18-21 July, 1996

“Ecotourism and Its Role in Sustainable Development”
by
Costas Christ

Tourism, particularly that called Ecotourism, is held out as a stimulant for economic growth in rural areas by many countries. Unfortunately, very few people define what ecotourism means and a good deal of misunderstanding exists. For the purposes of this paper and in building on the meaning of ecotourism as identified in the 1993 International Conference on Ecotourism held in Thailand, I would like to put forward the definition of ecotourism as I use the term here:

Ecotourism is responsible travel to natural areas which conserves the environment and improves the welfare of local people.

Too often, people confuse nature tourism - wildlife safaris, birdwatching, jungle trekking, camping and other forms of outdoor recreation - with ecotourism. They are not the same thing. Ecotourism, by definition, is socially and environmentally responsible tourism. The ecotourist practices sustainable use of wildlife and natural resources and contributes to the visited area through financial means aimed at directly benefiting the conservation of the site and the economic well-being of the local resident (Ziffer, 1989 in Breimer, 1993)

Ecotourism as such is a relatively new phenomenon. Yet its origins are decidedly more evolutionary than revolutionary. Its roots lie in the centuries' old practice of nature and outdoor tourism. But its branches reach into the fields of community development and conservation. The idea that tourism can play a leading role in the conservation of natural resources while contributing directly to sustainable economic development is a decidedly recent notion. But it has developed with lightening speed.

We do not know definitively if ecotourism will yield what it promises - sustainable development of rural economies and protection of natural resources. But what we do know is this: there has been enough initial success with ecotourism to encourage us to look more closely at it as a viable tool for conservation and community-based income generation. In short, if ecotourism is an experiment - and it is - we are seeing enough positive results to take it very seriously.

As already mentioned, ecotourism grows out of the centuries' old practice of nature and outdoor tourism. More than 100 years ago, Europeans traveled to Africa and Asia to see its spectacular wildlife and North Americans flocked to the new national parks established in the United States. Since then, tourism has grown steadily to become, today, the world's largest non-military industry, generating \$3 trillion in annual revenues and employing more than 112 million people worldwide. It is one of the most important sources of foreign exchange for many countries. Within the tourism sector, ecotourism, broadly defined, is one of the fastest growing segments of the tourism industry, expanding at a rate of 30% each year, compared with a 6-8% annual growth rate for mainstream conventional tourism (Source: The Conservation Lodge Foundation, Pew Charitable Trust).

It is within this context that we can turn our attention to ecotourism and its role in sustainable development. Tourism growth alone does not mean sustainable development and indeed it begs the question of sustainable development for whom? Mass tourism has an historical record of mainly benefiting a small percentage of very wealthy individuals and families while utilizing natural resources in a very unsustainable way - draining sewage into lakes and rivers, cutting forests for huge resorts and so on.

But, ecotourism, carefully conceived and implemented, can indeed play a very important role in sustainable development, particularly in rural regions associated with

protected areas. The key to this remains working closely with local peoples and utilizing environmental designs that emphasize low-impact architecture, renewable energy resources, and other features that are adapted to both the natural and cultural landscape.

Furthermore, there must be fertile ground on which the principles of ecotourism can flourish : a government that severely limits community rights over resources and revenues, or constrains local peoples' abilities to organize themselves into a representative group, will effectively undermine community-based tourism development and its economic growth potential. At the same time, policies need to be put in place that encourage sustainable tourism development, such as clear incentives for companies that adhere to environmentally responsible design and operation, and concession fees that are lower for those who put into place revenue-sharing schemes with local communities and higher for those who don't.

One example of how government policy can support sustainable development through ecotourism can be found in the country of Namibia. In 1995, the Namibian government put into place one of the more far-reaching policies to date on community-based tourism development. The Ministry of Environment and Tourism officially recognized that tourism, and particularly ecotourism, is one of Namibia's fastest growing industries, and therefore a key means to promote social and economic development in rural areas. It further recognized that due to historical inequities in the tourism industry, vast segments of the population, particularly in rural areas, have received little economic benefit from tourism. The new policy commits the government to actively opening up opportunities for rural communities and local people to increase their involvement in the tourism industry. Furthermore, this progressive policy emphasizes that development of tourism in rural areas is in forms acceptable to local people and further ensures that tourism development within Namibia is environmentally sustainable. Lastly, the government of Namibia has stated in its new policy that it seeks to

ensure that local peoples are represented on government and para-statal organizations, within private sector working groups, and on NGO bodies which are involved in tourism development planning.

Australia is another country where the government has been proactive in making sure that, through regulations and policies, there is fertile ground for the seeds of ecotourism to take root. Australia was one of the first countries to set up a National Ecotourism Strategy, with implementation of ecotourism initiatives carried out through a National Ecotourism Program. The government has committed over \$10 million Australian dollars from 1995-1997 to funding local ecotourism initiatives, research, regional planning, monitoring and assessment, as well as development of community-based tourism enterprises.

For ecotourism to play a positive role in sustainable development, supportive government policy and planning is only one dimension of what is needed. Education and training at the grassroots community level is another important goal, one in which educational organizations such as the Institute of Ecotourism here in Thailand can play a critical role, along with other supportive non-governmental organizations, in empowering local communities to build their capacity to become active participants in community-based ecotourism enterprises.

One of the best models of ecotourism development in the private sector that I am aware of can be found in Conservation Corporation, an Africa-based organization specializing in developing ecolodges. Conservation Corporation was established in 1990 to develop the potential of the ecotourism industry, first in Africa and now branching out into new possible projects in Southeast Asia, North America and South America. In essence, Conservation Corporation aims to convince the international investment community to invest in rural economies, particularly in Africa, through developing ecolodge enterprises in and around

national parks and private reserves. The approach is not to own wildlife land or wilderness areas, but to create partnerships with the regional governments and local communities in these areas.

Security of tenure is obtained via long-term use agreements, with the resulting rental, lease and traversing fees flowing directly to the local communities. In the six years since its founding, Conservation Corporation has grown rapidly, from one ecolodge in 1990 to eighteen lodges in 1996. In 1990, 150 local people were deriving their economic livelihood through Conservation Corporation's rural-based ecotourism efforts. Today, more than 2000 villagers in three African countries derive their economic livelihood through Conservation Corporation's ecotourism operations and that number is growing rapidly.

Conservation Corporation is an excellent example of two important things: that ecotourism makes good business sense for the investor, bringing potentially high returns on the initial investment, and it can be a powerful tool for sustainable development in rural areas.

Above all, if ecotourism is to achieve a measure of success in sustainable economic development, then all the ingredients have to be there to make it work. Government policies must be designed to empower the role local people can play in being participants in tourism enterprises in the way they feel is best for their interests. Non-governmental organizations need to play an important role in building the capacity of local community groups to engage in community-based tourism enterprises. Private sector investors interested in establishing lodges and hotels in or near protected areas need to understand that, ultimately, their future success, security, and ability to attract tourists depends on their willingness to involve the local community in a beneficial relationship.

This paper has mainly focused on the role ecotourism can play in supporting sustainable development, particularly in rural economies. The evidence shows that the

potential is there when communities are involved in determining and implementing ecotourism initiatives and most importantly, when the crucial roles of government (both local administrative and national departments), NGOs, and the private sector come together in a mutually supportive way.

Finally, in talking about sustainable economic development through ecotourism, whether they be joint ventures, revenue sharing levies, or partnerships between local peoples and the private sector, we cannot lose sight of the other critical aspect of sustainability - that is, in its environmental concept. Guidelines are still being drawn up to make sure that tourism enterprises meet the environmental as well as social responsibilities inherent in ecotourism. Ecolodges must be designed in harmony with the local, national and cultural environment, they should minimize the use of non-renewable materials for construction, they should use recycled materials where possible; they should work to provide benefits to conservation and research initiatives, both public and private, and they should offer excellent interpretive programs to educate the visitor about the local environment and culture.

Very few facilities in the world presently meet all of these community and environmental standards inherent in the concept of sustainable development. But step by step, progress is being made. The decision by the Oriental Hotel in Bangkok and in Singapore to use unbleached and undyed natural cotton bags instead of plastic for laundry and drycleaning services is now being picked up by other hotel groups in Asia. This single move alone by the Oriental has helped to reduce plastic waste by the tons annually. Although the challenges remains immense, the successes are growing, showing that when it comes to ecotourism and its role in sustainable development, we are beginning to see the potential become reality.

The End

THE IMPLEMENTATION OF ECOTOURISM IN AUSTRALIA

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Srinakharinwirot University
Bangkok, Thailand**

ABSTRACT

This paper sets out to introduce the past, present and future issues in relation to the implementation of ecotourism in Australia. Ecotourism is growing rapidly and the Government recently identified 600 ecotourism operators employing approximately 4,500 full time equivalent staff generating a turnover of AUD\$250 million per annum. This represents 1% of the total tourism industry employment in Australia.

Recent developments in Australian ecotourism have placed it at the forefront of global ecotourism initiatives. The country has a National Ecotourism Strategy and the Government has spent \$10m on its implementation over the past four years. Initiatives include the advancement of best practice ecotourism techniques and the establishment of numerous ecotourism education and training courses. Later this year a national ecotourism accreditation scheme will be launched for operators.

The Ecotourism Association of Australia is now in its fifth year of operation and has a membership of 500. It has been active in fostering the advancement of ecotourism through its preparation of a Code of Ethics for tourists and a Code of Practice for operators, chairing the National Ecotourism Accreditation Scheme Steering Committee and hosting three national conferences.

Other Australian enterprises include the establishment of an international research centre and the hosting of an international ecotourism conference in 1994. Major issues facing the development of Australian ecotourism include fostering sustainable tourism development; establishing ethics in advertising and operations; the involvement of indigenous people; and the return of economic benefits to local communities. Future trends include the strong market demand; its high-yield nature; increasing industry professionalism; and its potential to help 'green' the tourism industry as a whole. Overall Australian ecotourism is at the forefront of international ecotourism and is set to lead the world in this growth industry into the twenty-first century.

INTRODUCTION

This paper sets out to introduce the past, present and future issues in relation to the implementation of ecotourism in Australia.

Tourism is the fastest growing industry in the world and the fastest growing component of it is ecotourism. Reflecting the explosive growth in ecotourism there has been a large number of ecotourism organisations and centres established. Organisations include The Ecotourism Society (TES), a surrogate global ecotourism association which is based in the United States of America, and The Ecotourism Association of Australia (EAA). Centres include the The Institute of Ecotourism, Srmakharinwirot University, Bangkok, Thailand; the World Travel and Tourism Environment Research Centre (WTTTERC) in Oxford, England; the International Centre for Ecotourism Research (ICER) on the Gold Coast, Australia; and The Centre for Ecotourism, South Africa at The University of Pretoria.

In addition there has been a plethora of conferences, symposia and workshops on the topic held since 1990. Recent examples include the Australian National Ecotourism Conference *Taking the Next Steps* which was held in Alice Springs in November 1995 and the Pacific Asia Travel Association's (PATA) 8th *Adventure Travel and Ecotourism Conference and Mart* held in Nepal in January 1996. Recently The Ecotourism Society held workshops on *Ecotourism Planning and Management* at The George Washington University, Washington DC, USA from 17-21 June and the first *Marine Ecotourism Workshop* in Hawaii from 24-26 June. 'An International Symposium on Ecotourism' will be held as part of the *EcoWorld'96* International Congress and Exhibition at Midrand, South Africa from 16-20 September; and EAA's third National Conference *Strategic Alliances: Ecotourism Partnerships in Practice* will be convened at Kangaroo Island, South Australia from 14-17 November. Next year *World Ecotour'97*, a World Congress and Exhibition on Ecotourism, will be held in Fortaleza, Brazil from 19-22 November.

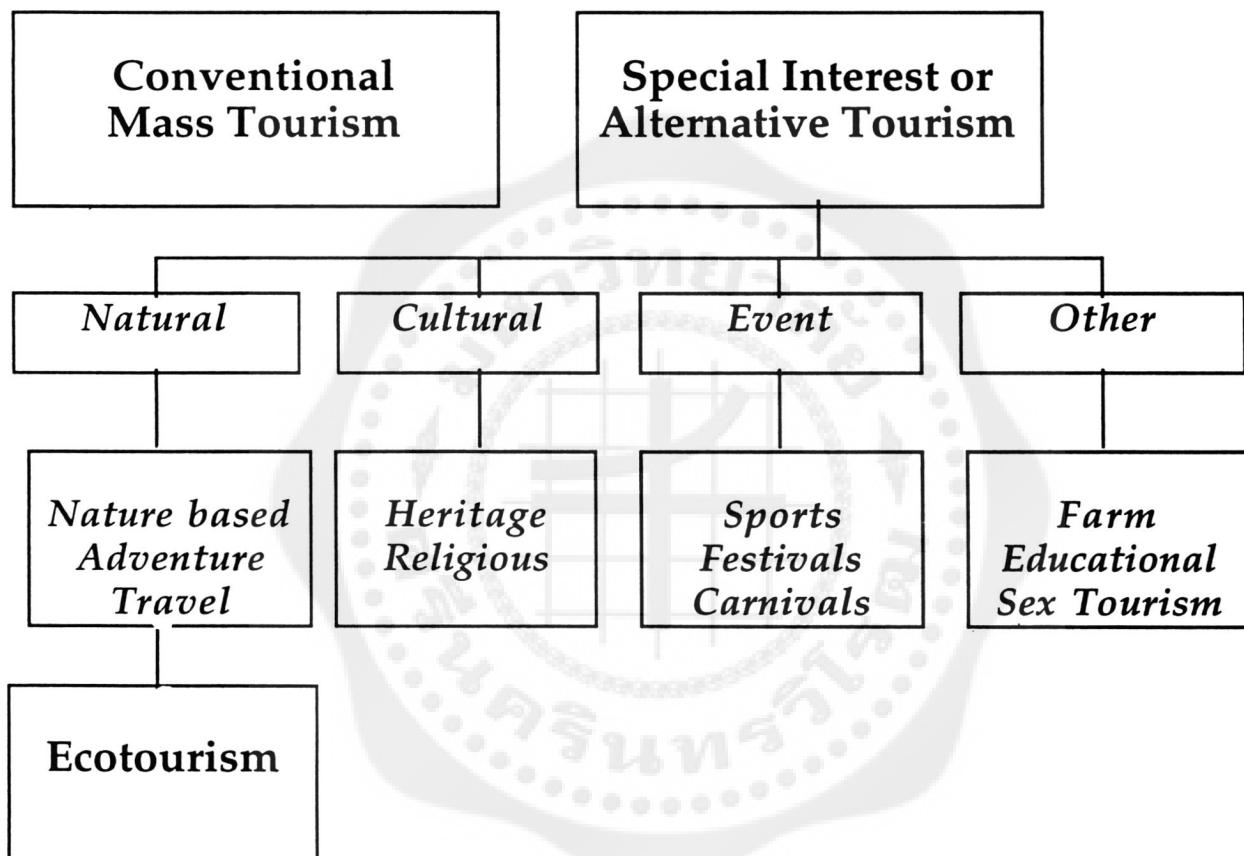
Books on the subject include *Ecotourism: A Guide for Planners and Managers* (Lindberg and Hawkins 1993), *Ecotourism: A Sustainable Option* (Cater and Lowman 1994), *Tourism and the Environment: A Sustainable Relationship?* (Hunter and Green 1995) and *Sustainable Tourism: An Australian Perspective* (Harris and Leiper 1995). Recent journals focusing on ecotourism include *Tourism Management* Volume 14:2 (1993), *World Leisure & Recreation* Volume 36:2+3 (1994), and *Tourism Recreation Research* Volume 20:1 (1995).

ECOTOURISM IN AUSTRALIA

Ecotourism in Australia is defined as a subset of natural area tourism and may combine elements of both nature-based tourism and adventure travel (Figure 1). However, it is also characterised by a number of other features - notably its educative element and conservation-supporting practice. The definition of ecotourism advanced by the Australian National Ecotourism Strategy is:

Figure 1 - An Overview of Tourism

**All tourism should be sustainable -
economically, socially, environmentally**



1. Nature-based products and markets,
2. Environmentally sustainable operations and management,
3. Environmentally educative for staff and clients alike,
4. Locally beneficial, and
5. Tourist satisfaction.

Ecotourism is nature-based tourism that involves education and interpretation of the natural environment and is managed to be ecologically sustainable. The definition recognises that 'natural environment' includes cultural components and that 'ecologically sustainable' involves an appropriate return to the local community and long-term conservation of the resource.

Australian Department of Tourism 1994a: 17

Ecotourism comprises a number of interrelated components all of which should be present for authentic ecotourism to occur. There are five key principles which are fundamental to ecotourism. They are that ecotourism is nature-based, ecologically sustainable, environmentally educative, locally beneficial and generates tourist satisfaction. The first three characteristics are considered to be essential for a product to be considered 'ecotourism' while the last two characteristics are viewed as being desirable for all forms of tourism.

Tourism is Australia's fastest growing industry. In 1995 there were 3.7 million international arrivals and this is expected to rise to 6.3 million in 2000 and 8.7 million in 2005 (Tourism Forecasting Council 1996). It is also Australia's biggest foreign exchange earner. In 1995 tourism earned Australia \$13 billion, 12.4 per cent of its total export earnings. Tourism now employs more than 450,000 people, 6 per cent of the nation's workforce

The average annual rate of growth in arrivals is forecast to be just under 10 per cent a year, with a 250 per cent increase over the next decade. The Asian market will be the main source of increased tourism to Australia with arrivals expected to reach 4.5 million, or 59 per cent of all visits to Australia. Japan is expected to remain the biggest single source market and arrivals from other parts of Asia should increase to 3 million in 2003. By then, Indonesia, Taiwan and South Korea are all expected to provide half a million visitors to Australia each year. Last year 81,000 (or 2% of all international tourists) were from Thailand and in 2005 this will rise to 422,000 (5%) of all visitors.

There is widespread recognition of the growing importance of ecotourism as a segment of the tourism market world wide. Recent studies show Australia is ranked first or second as a preferred holiday destination in 9 out of 14 key markets, including the US, Japan, Britain and Germany. Australian Tourist Commission research indicates a shift away from built attractions to areas of natural beauty and a considerable proportion of the record 3 million international tourists who came to Australia in 1993 ranked natural phenomena as major factors influencing their choice of destination (over 85% of the Japanese market and over 70% American and European travellers). The data also indicates that visitors from North America, Europe and the United Kingdom are most interested in nature-based activities. However, although Asian visitors have lower propensities to visit natural areas, they still account for half of all visits by international tourists to Australia's national parks.

The Bureau of Tourism Research also conducted some research in an attempt to get a clearer picture about the ecotourists - who they are and where they come from.

They found that a significant proportion of inbound visitors to Australia seek direct and active experience of our natural environments. Five percent (5%) of inbound tourists indicated that experiencing outdoor nature-based activities 'particularly influenced' their decision to travel to Australia. For example, in 1995, the 3.7 million inbound visitors, aged 15 and over, reportedly undertook a bushwalk (13%), went coral viewing (12%) or undertook rainforest walks (11%).

Ecotourism has the potential to be a major niche market within Australia's booming tourism industry, but the concept and how it should operate in practice is not yet well understood. To help address the issue, \$430,000 in funding under the National Ecotourism Strategy was provided for three consultancies in 1995 to increase awareness of the principles of ecotourism and improve the business skills and management practices of those already operating in the market.

One, undertaken by Econsult Australia Pty Ltd in Melbourne, was aimed to improve the level of business skills among ecotourism operators and so increase their viability and capacity to deliver quality ecotourism experiences in a sustainable manner. The National Ecotourism Strategy Business Development program identified 600 ecotourism operators in Australia employing approximately 4,500 full time equivalent staff generating a turnover of \$250 million per annum. This represents 1% of the total tourism industry employment.

IMPLEMENTING ECOTOURISM IN AUSTRALIA

Recent developments in Australian ecotourism have placed it at the forefront of global ecotourism initiatives. The country has made remarkable progress in the last few years to achieve a number of accomplishments in ecotourism. They include:

1. Demonstrable government commitment;
2. Implementing a range of ecotourism strategies;
3. Establishing an international research centre;
4. Setting up national and local ecotourism associations;
5. Hosting three international ecotourism conferences;
6. Establishing best practice ecotourism techniques;
7. Setting up ecotourism education and training courses; and
8. Preparing a national ecotourism accreditation scheme.

1. Demonstrable Government Commitment

Ecotourism in Australia has made considerable progress in the past four years mainly due to a clear and demonstrated lead by the Australian Federal Government through its National Ecotourism Program. In March 1994, the Government released its National Ecotourism Strategy as one of a number of major initiatives to develop tourism in a sustainable manner in regional Australia (Australian Department of Tourism 1995) . The strategy provides an overall framework to guide the integrated planning, development and management of ecotourism in Australia on a sensitive and sustainable basis.

The Australian Government has a number of strategies and programs designed to meet its tourism and environment goals. They emanate from the Prime Minister's Statement on the Environment. Announced in 1992, it reinforced the importance of ecologically sustainable development and identified a range of supporting initiatives. They include the National Strategy for Ecologically Sustainable Development, out of which has arisen the National Ecotourism Strategy and the National Ecotourism Program (Figure 2). Allied to this strategy and program are others which focus on Forest Ecotourism, Rural Tourism, Regional Tourism Development and the Sites of National Tourism Significance Program.

The National Strategy for Ecologically Sustainable Development was endorsed by the Australian Government in 1992. Its goal for Australia is to pursue development that improves the total quality of life, both now and in the future, in a way that maintains the ecological processes on which life depends. The National Ecotourism Strategy is a policy framework for Australian industry and government which focuses on the growing market opportunities for ecotourism.

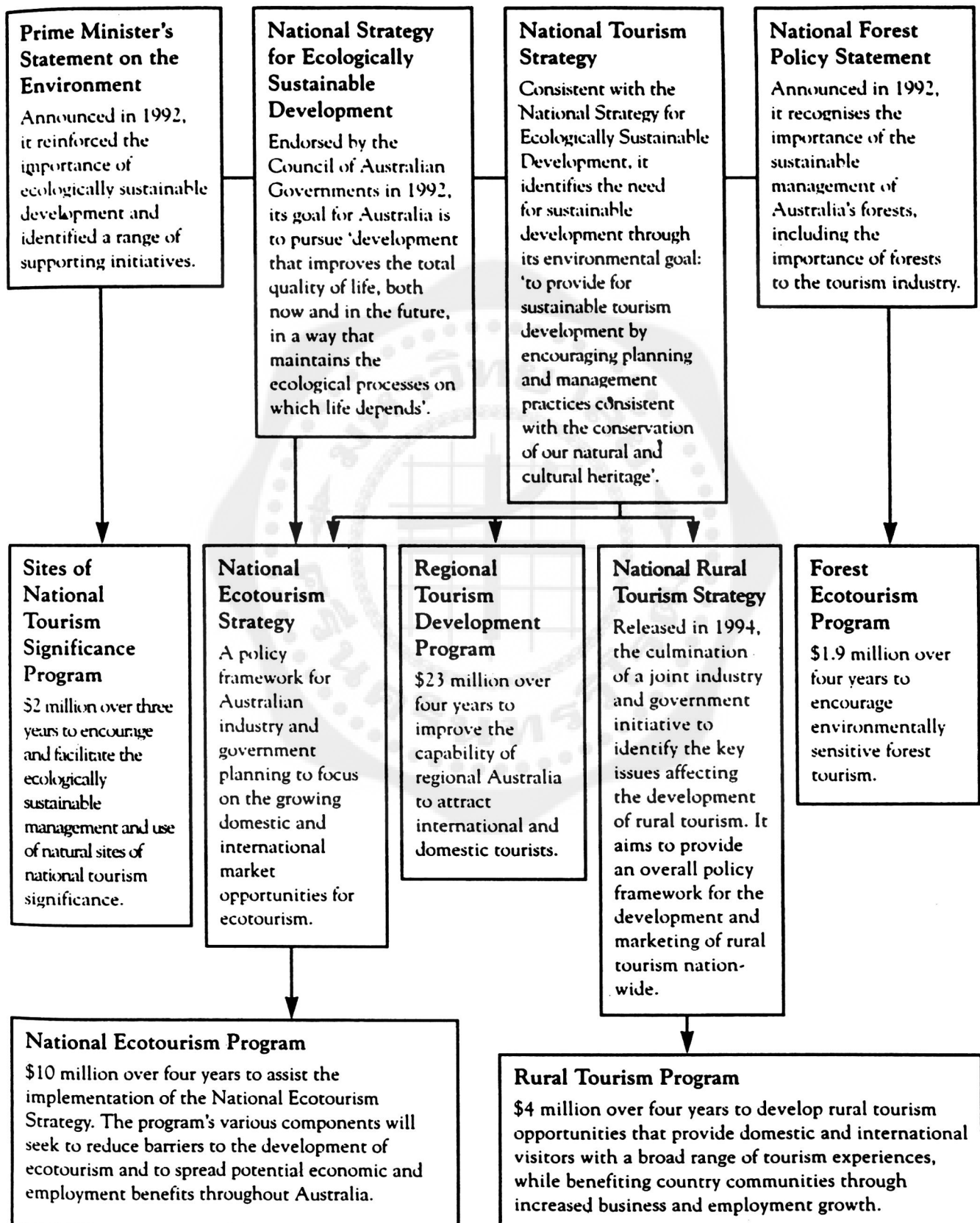
The National Ecotourism Program comprises \$10 million spent over four years to assist the implementation of the National Ecotourism Strategy. The program aims to sustainably develop ecotourism through innovative projects which will increase Australia's competitiveness as an ecotourism destination, enhance visitor appreciation of natural and cultural values, and contribute to the long-term conservation and management of ecotourism resources. The program's various components seek to reduce barriers to the development of ecotourism and to spread potential economic and employment benefits throughout Australia.

The Forest Ecotourism Program encourages environmentally sensitive forest tourism. The Sites of National Tourism Significance Program encourages and facilitates the ecologically sustainable management and use of natural sites of national tourism significance. This program aims to develop projects that minimise the environmental impact of tourism, enhance visitor appreciation of environmental values, and increase understanding of tourism management in natural areas.

A recent initiative of the Australian Department of Tourism is the current preparation of a short video on Australian Ecotourism which will be shown on all aircraft entering the country. The five minute educative film clip explains to visitors the significance of ecotourism to Australia and the subsequent need for conservation and respect of the natural and cultural environments.

Figure 2 - Tourism and Environment Strategies and Programs Implemented by the Australian Government

Source: Australian Department of Tourism (1995a)



2. Ecotourism Strategies

The Australian National Ecotourism Strategy was launched in March 1994. It has been developed to create a vision for Australian ecotourism and set it on a clear path forward to take Australian ecotourism into the next century.

The vision of the National Ecotourism Strategy is that Australia will have an ecologically and culturally sustainable ecotourism industry that will be internationally competitive and domestically viable. Ecotourism in Australia will set an international example for environmental quality and cultural authenticity while realising an appropriate return to the Australian community and conservation of the resource. Its aims are to:

1. Identify the major issues that affect - or are likely to affect - the planning, development and management of ecotourism in Australia;
2. Develop a national framework to guide ecotourism operators, natural resource managers, planners, developers and all levels of government towards achieving the vision; and
3. Formulate policies and programs to assist interested parties to achieve the vision.

Australian Department of Tourism 1994a: 1

The major issues affecting the planning, development and management of ecotourism in Australia include (Figure 3):

1. minimal impact and ecologically sustainable approaches to tourism planning, development and management;
2. the need to simplify the processes used in the planning and regulation of ecotourism;
3. factors affecting the management of natural resources to meet the challenges of growth in ecotourism, including the resource constraints that could be imposed by additional use;
4. the development of appropriate infrastructure;
5. the need for monitoring of impacts to assist in decision-making and the effective management of the resource;
6. the challenges associated with marketing unique and often seasonal products, particularly in distant markets;
7. the need for appropriate industry standards and the possibility of establishing a national system of accreditation to ensure that services and products meet certain standards;

Figure 3 - The Australian National Ecotourism Strategy

Source: Australian Department of Tourism (1994a)

The *National Ecotourism Strategy* examines issues associated with ecotourism and how it can be planned, developed and managed in the Australian context.

Interest in ecotourism has arisen from increasing numbers of people visiting and learning about natural environments and the need to adopt minimal impact practices to maintain the quality of the environments visited.

There are numerous definitions of ecotourism, from which common elements can be extracted and combined to distinguish ecotourism from related operations. These elements are, broadly, a focus on the natural environment, ecological and cultural sustainability, education and interpretation, and local and regional benefits. Based on these elements, the following definition has been adopted:

Ecotourism is nature-based tourism that involves education and interpretation of the natural environment and is managed to be ecologically sustainable.

This definition recognises that 'natural environment' includes cultural components and that 'ecologically sustainable' involves an appropriate return to the local community and long-term conservation of the resource.

The major issues affecting the planning, development and management of ecotourism in Australia have been identified through an extensive consultation process and are detailed in chapter 5. They are:

- minimal impact and **ecologically sustainable** approaches to tourism planning, development and management;
- the need to simplify the processes used in the **planning and regulation** of ecotourism, increase their effectiveness and integrate approaches across government boundaries and between agency jurisdictions;

- factors affecting the **management of natural resources** to meet the challenges of growth in ecotourism, including the resource constraints that could be imposed by additional use;
- the development of appropriate **infrastructure**;
- the need for **monitoring of impacts** to assist in decision-making and the effective management of the resource;
- the challenges associated with **marketing** unique and often seasonal products, particularly in distant markets;
- the need for appropriate **industry standards** and the possibility of establishing a national system of **accreditation** to ensure that services and products meet certain standards;
- **ecotourism education** to assist in establishing industry standards and encourage tourists and operators to adopt minimal impact practices;
- opportunities for the involvement of **Aboriginals and Torres Strait Islanders** in ecotourism as land owners, resource managers and tourism operators;
- particular challenges affecting the **viability** of ecotourism enterprises; and
- **equity considerations** arising from competition for the use of natural resources and from the way in which they are managed.

Objectives and actions are suggested to address each issue and notional responsibilities are indicated. A number of programs and approaches are proposed to implement this Strategy and some indication of Commonwealth Government priorities is given in chapter 6.

8. ecotourism education to assist in establishing industry standards and encourage tourists and operators to adopt minimal impact practices;
9. opportunities for the involvement of indigenous people in ecotourism as land owners, resource managers and tourism operators; and
10. particular challenges affecting the viability of ecotourism enterprises.

Regional Ecotourism Strategies

Following the release of the strategy a number of state and regional ecotourism strategies have been devised. One example is the South Australian Ecotourism Strategy (SATC 1994). Entitled 'Ecotourism: A Natural Strategy for South Australia' its principles are that ecotourism development in South Australia will be based on a planned and well-managed strategy of sustainable development, as well as being a collaborative process involving industry, government and the community.

The objectives of the strategy are to:

- Position South Australia as a major ecotourism destination offering world-class visitor experiences;
- Develop viable world-class South Australia ecotourism experiences;
- Conserve South Australia's natural and cultural resources; and
- Develop South Australia's regional economies.

The focus of the South Australian Ecotourism Strategy is on action and partnership. Its achievement requires industry, government, indigenous communities, conservationists and local communities to work together in genuine partnership.

The five major elements of South Australia's Ecotourism Strategy are:

- Product and promotion - to put product into the market; raise South Australia's profile in this target market; identify and fill product gaps; and make sure South Australia is connected with the distribution system and can deliver;
- Industry standards - to ensure that South Australia ecotourism product stands up to the requirements of this discerning market;
- Policy and management requirements - to plan development of ecotourism and draw together development and infrastructure needs with product requirements;

- Accommodation development - to stimulate development of accommodation suitable for the ecotourism market; and
- Industry viability - to address questions of industry viability.

3. An International Research Centre

A number of centres for ecotourism have been established in different parts of the world over the past few years. In Australia the International Centre for Ecotourism Research (ICER) was established at Griffith University in 1993 (ICER 1995). Its aim is to provide a focus for ongoing research on tourism and the environment and in many ways it is viewed as a southern hemisphere counterpart of the WITTERC, the World Travel and Tourism Environment Research Centre in Oxford, England. ICER is currently involved in a large number of ecotourism research projects focusing on questions related to ecotourism - management, engineering, economics, education, law and advertising. The Centre has a Chair in Ecotourism, held by Professor Ralf Buckley, and the University now offers a three year BSc degree in Ecotourism.

4. National and Local Ecotourism Associations

The Ecotourism Association of Australia (EAA) was initially established following an international conference on ecotourism held in 1991. The principal aims of the association are to foster sustainable tourism; the conservation of nature and culture; environmental appreciation, ethics and standards; and interaction amongst interested and involved people.

The current membership is almost 500, half of whom are industry operators with the rest comprising mainly resource managers and academics. The association has been extremely active in fostering the advancement of ecotourism in Australia. Some major initiatives include:

- Hosting a national workshop *Evaluating Ecotourism* at Port Douglas in November 1993;
- Convening the National Ecotourism Conference *Taking the Next Steps* in Alice Springs in November 1995;
- Providing advice and information to media and other organisations;
- Participating in the formation of the National Ecotourism Strategy;
- Preparing of a Code of Ethics for tourists and a Code of Practice for operators;
- Chairing the National Ecotourism Accreditation Scheme Steering Committee; and
- Establishing liaison with both government and non-government organisations.

The EAA has also helped the Australian Conservation Foundation's *Green Jobs Unit*; participated in the development of the establishment of an Ecotourism degree

at Charles Sturt University, and publishes a quarterly newsletter. In November 1996 it will host a third national conference at Kangaroo Island, South Australia.

A number of regional ecotourism associations have also been established in Australia such as the Forum Advocating Cultural and Ecotourism (FACET) in Western Australia (WA). Established in 1992 FACET acts as a valuable networking and information source for those interested in cultural and ecotourism. FACET's aim is 'to inspire and promote the responsible use of Western Australia's cultural and natural heritage through tourism'. FACET publishes a newsletter, hosts topical meetings and fosters an awareness of cultural and ecotourism throughout the state.

In June 1995 FACET, EAA and CALM hosted the seminar *Value Added Tourism* at The University of Notre Dame Australia, Fremantle. The seminar featured Paul Eagles, Professor of Environmental Planning at The University of Waterloo, Ontario, Canada, and Ms Lyn Leader-Elliot, Cultural Tourism Consultant from South Australia. This year the three organisations have combined again to present a seminar on *Interpretation the Aboriginal Way*. The seminar will feature members of CALM's Aboriginal Nature-Based Tourism, Education and Training Unit as well as from the Interpretation Unit of the Australian Nature Conservation Agency (ANCA) in the Northern Territory.

5. International Conferences

The initial focus on ecotourism at a national level in Australia occurred at the Inaugural International Symposium on Ecotourism held in September 1991 at the University of Queensland in Brisbane (Weiler 1992). The first international conference on ecotourism to be held in the southern hemisphere it attracted 130 delegates from seven countries. Participants included tour operators, facility owners and operators, academics, conservationists, and public sector parks and tourism representatives.

The issues discussed at the conference included:

- Defining and setting boundaries on ecotourism;
- Profiling ecotourists;
- Identifying the impacts of ecotourism on environment and culture;
- Identifying management responses that maximise ecotourism's benefits;
- Developing standards, guidelines and codes of ethics for ecotourism operators and tourists, and
- Identifying future issues and problems in ecotourism.

The conference proceedings have been published and their availability and cost can be obtained from the Bureau of Tourism Research, GPO Box 1545, Canberra, ACT 2601, Australia; Fax IDD + [616] 274 1713.

A second international ecotourism conference was hosted by Australia in November 1994. The 4th World Congress on Adventure Travel and Ecotourism attracted more than 500 participants from 25 countries. The four day forum

focussed international attention on the importance of ecotourism, its challenges and opportunities. Speakers included Professor David Bellamy (Director of the Conservation Foundation of London, UK) and Sir Tipene O'Regan (Chair, Ngai Tahu Maori Trust Board NZ). Key issues discussed included:

- Changing consumption patterns;
- Educating the industry and the public;
- Achieving sustainable development;
- Making a profit from adventure travel and ecotourism;
- Protecting indigenous cultures, and
- Responsibly and effectively marketing and promoting adventure travel and ecotourism.

Australian Department of Tourism 1994b: 4

As part of its contribution to the conference the Australian Government sponsored a seminar on sustainable design to highlight the relationship between ecotourism and appropriate infrastructure. A *Guide to Innovative Technology for Sustainable Tourism* was launched at the conference (Australian Department of Tourism 1994c). It outlines a selection of the latest in sustainable technology available to the tourism industry and showcases actual examples of how the technology can be applied to a range of tourism developments in regard to water and energy conservation, waste minimisation, recycling and building materials.

A third international ecotourism conference was convened EAA at Alice Springs, Northern Territory from 18-23 November 1995. The conference theme was '*Taking the Next Steps*' and it comprised a three-day conference and forums on 'Technology and Design', 'Nature Based Resorts' and 'Applied Ecotourism'. The conference attracted 150 people from all parts of Australia as well as from the USA, Canada, and Thailand. The conference began with a one-day forum on 'Innovative Technologies and Design for Tourism' during which the Australian Government's 'Guide to Energy and Waste Minimisation for Tourism Operators' was launched. This was followed by three sessions focusing on 'Information Technology'; 'Energy and Waste Minimisation Practices'; and 'Innovative Design'.

Speakers from the USA included Jonathon Chester of Mountain Travel - Sobek, the world's largest adventure travel company, who spoke on the role of e-mail, and Virtual Reality in their company's operations and marketing. Stanley Selengut, owner of a number of ecotourism resorts in the US Virgin Islands, spoke on his philosophy of fostering minimal environmental impact, resource conservation, environmental education and contribution to the local community. Terry Savage, Superintendent, New England System Support Office, United States National Park Service, illustrated the guiding principles of sustainable design emanating from the 1991 'Vail Agenda' - a wake up call for the Park Service to re-evaluate its mission and renew its direction for the future.

A number of Australian speakers also presented innovative ecotourism material. For example, Ken Latona, an architect and operator of the Cradle Huts/Freycinet Experience in Tasmania emphasised the importance of a 'sense of place' when

invoking ecotourism design concepts. He suggested that the key elements to a sense of place lay in any ecotourism facility being simple, small-scale, sustainable and sacred. His ecotourism operation which includes packing in and fully assembling tent lodges in the Tasmanian Wilderness area, then disassembling them entirely and packing them out again at the end of the six month tourist season.

During the conference a number of workshops were also held. They included Indigenous Tourism; Education and Training; Business Development; International Perspectives; The Greening of Tourism; New Solutions; Marketing; Natural Resource Management; and Accreditation.

The conference proceedings can be obtained from Ms Cherise Walmsley, Executive Secretary, The Ecotourism Association of Australia, PO Box 26, Red Hill, Queensland 4059, Ph: IDD+ (617) 3856 5016 Fax: (617) 385 5015.

6. Best Practice Ecotourism Techniques

The Australian Government has based its emerging Ecotourism industry firmly on ecologically sustainable principles. For ecotourism operators this means commitment to good environmental practices, especially good energy and waste minimisation practices. The Government commissioned the Australian Conservation Foundation to promote the use of cost-effective energy and waste minimisation techniques by preparing and disseminating information which demonstrated how such initiatives could be practically applied to ecotourism. The project highlighted the economic and marketing benefits of environmentally responsible practices and has been released as *Best Practice Ecotourism: A Guide to Energy and Waste Minimisation* (Australian Department of Tourism 1995b).

This booklet describes practical ways for ecotourism operators to minimise their waste and energy requirements. It suggests that ecotourism developments should consume minimal energy, have a low impact design, use recycled materials wherever possible and viable, reduce water consumption, and dispose of waste responsibly. The emphasis on energy minimisation is on the principles of reduction and the use of renewable energy. Waste management techniques include reduction, re-use, and recycling. It also includes energy recovery and the treatment of wastes. Improving environmental performance does not have to increase costs or reduce comfort and convenience. As better environmental practices are being sought, more solutions which enable environmental, financial and client service goals to be met simultaneously are being found. It suggests that the ecotourism industry can act as an exemplar in this regard for the wider tourism industry.

The guide not only provides operators with the practical means to evaluate their current practices but is also offers a number of suggestions for improving the energy and waste management of 25 identified activities. These include minimisation management techniques for land and water transport, energy supply, lighting, cooking, refrigeration, solid materials, building materials, and paper, glass, metal and plastics.

A number of success stories are related. These include Wild Quest Safaris in the Northern Territory which uses photovoltaic cells to run the refrigeration units in its trailers. Solar power reduces running costs and eliminates the need for noisy generators. Kingfisher Bay Resort's main building on Fraser Island, Queensland, has many energy-efficient design features to achieve year-round comfort, despite the island's warm climate. These include shading by native trees and roof overhangs; ventilation via louvred walls, large doors and windows located near the ceiling; ceiling fans under high ceilings; and light-coloured roofing.

Queensland's Green Island generates its own electricity but it also puts its waste heat from the generator engines to good use. Cooling water from the engines (which is 70-80°C) is circulated through a heat exchanger which heats the water in the swimming pool. This system of recovering waste heat has reduced the amount of heating fuel required to be transported to the resort. The Fitzroy Falls Visitor Centre in New South Wales has a large experimental composting toilet facility, which copes with 8,000 to 16,000 visitors per week, and uses both conventional composting toilets and worm-boosted ones.

From 23-26 July 1996 a national conference on *Best Practice Ecotourism* will be held in Australia. Organised by a Queensland company 'Management Solutions' it focuses on best practice ecotourism design, planning, policy, management and operations.

7. Ecotourism Education and Training Courses

An indication of the demand for ecotourism courses in Australia is shown by the number of applications received by Flinders University in South Australia earlier this year which received over 400 applicants for 25 places in its inaugural offering of a Degree in Ecotourism.

This demand for ecotourism education and training led the Government to commission the preparation of a *Directory of Ecotourism Education* which was undertaken by Social Change Media, Sydney and largely carried out by Dr Betty Weiler of the University of Newcastle, NSW. The consultancy involved the research, development and implementation of a broad-based education strategy to promote the principles and practices of ecotourism to a range of audiences. These include industry bodies, natural resource managers, education and training bodies, consumers and the media.

The final report of the consultancy has been released by the newly named Commonwealth Department of Industry, Science and Tourism - Tourism Division, earlier this year. The directory has been produced to assist ecotourism operators, guides, students, and others gain ready access to information on the range of ecotourism education and training opportunities available in Australia (Australian Department of Tourism 1996). It is part of a larger study focusing on the information and training needs of the ecotourism industry in general.

The directory provides a comprehensive listing of ecotourism courses offered by education institutions and specialist providers, as well as useful contacts and

resource materials that can provide practical information and advice on ecotourism.

The directory includes a comprehensive listing of ecotourism courses and training programs offered by Australian education institutions and specialist providers as well as a compendium of individual resource materials that may be of particular use to educators and trainers. It also includes an index of courses related to the areas of business and marketing, and general tourism and travel courses offered by Australian education institutions.

Details of the availability and cost of *The Directory of Ecotourism Education* can be obtained from the Department of Industry, Science and Tourism - Tourism Division, GPO Box 1545, Canberra, ACT 2601, Australia; Ph: IDD + [616] 279 7222; Fax IDD + [616] 279 7211.

8. A National Accreditation Scheme

The Australian Government is working towards implementing a National Ecotourism Accreditation Scheme. The program is being developed by the EAA in conjunction with the Australian Tourism Operators Association (ATOA). The project has been funded under a grant from the Commonwealth Department of Industry, Science & Tourism and is administered by Tourism Council Australia (TCA). A report has been prepared by consultants under the guidance of an industry-led steering committee and it is currently being circulated for review. The report makes recommendations on eligibility for ecotourism accreditation; criteria and minimum standards which could be applied, and the administration of the scheme. Three types of entities proposed as being eligible for accreditation are:

- Nature-based tour companies;
- Natural attractions relating to the regional environment; and
- Accommodation in natural areas.

Tours involve one or more guides taking an individual or group of people on excursions to one or several places. They typically blend an activity such as walking, driving or riding with viewing and interacting with the environment they are in. Common examples of ecotourism based tours include bushwalking, driving, caving and snorkelling.

Attractions involve a combination of a natural area and fixed infrastructure designed to help people explore and learn. Common examples of ecotourism based attractions include wildlife parks, sanctuaries, aquariums and visitor centres. Accommodation involves infrastructure and services that are designed to house visitors overnight within a natural area. Common examples of ecotourism based accommodation include ecolodges, resorts and standing camps. The scheme as proposed requires that accreditation should be granted to the operating entity for products or locations meeting specified criteria. However, each category, eg. tour operator, attraction and/or accommodation must be applied for separately.

The benefits of ecotourism accreditation include improving practices that lead to less environmental impact and more efficient use of natural resources; providing a baseline criteria for operators to determine the degree to which their business practices ecotourism; the opportunity for tourists to identify and businesses to promote bona fide ecotourism operations; and use as a tool to help determine a mixture of tourism activities that helps maximise benefits to local communities. It is anticipated that the Federal Minister for Tourism, the Hon. John Moore, will launch the National Ecotourism Accreditation Scheme at the EAA National Conference in November.

ISSUES AND TRENDS

There are a number of issues and trends emerging in the development and growth of ecotourism in Australia. A key issue is that ecotourism is becoming a buzzword which means many things to all people. Some operators use the word to market tours which are clearly not ecotourism in scope. When challenged they may share that their tours are economy tours. Also, there is little uniformity in the industry with 'Ecotourism' being marketed in Queensland, for example, but 'Nature-Based Tourism' being marketed in Western Australia.

A Special Report on Ecotourism in the Australian Travel Agents magazine *Travelweek* was subtitled 'What's in a word?' Confusion for a start (Burns 1996). The author argues that one of the problems with using the word ecotourism is that no one is quite sure what it means. A national tour operation sites manager stated that 'The majority of our clients who buy ecotourism-based products never use the word ecotourism'. Adding to the confusion of potential purchasers is the connection between ecotourism and soft adventure activities. The majority of tourists regard adventure activities such as bushwalking or white water rafting as ecotourism activities, which they are not.

Another key issue is that of environmental (ecological, cultural, and economical) sustainability. Since the natural environment underpins ecotourism it is essential that it be protected and conserved. However, in the pursuit of profit some entrepreneurs operating in natural environments under the banner of 'ecotourism' are simply not looking after the environment. Yet tourism activity that degrades the environment, adversely affects the local community or fails to return worthwhile economic benefits is not sustainable in the long term. Thus it is important that ecotourism operators undertake best practice methods to minimise adverse environmental impacts caused by visitor activity, transport and facility use. In addition the need for environmental protection provides a compelling argument for governments to put more money and resources into nature conservation and protected area management.

An emerging issue in Australian tourism generally is that of ethics in the advertising and delivery of the tourism product. At a recent meeting of FACET in Western Australia, the Chief Executive Officer of the WA Tourism Commission, Mr Shane Crockett, raised the subject as being a key one for ecotourism companies in the State. He noted that already two German inbound companies have been sued by clients for misrepresentation of the WA outback product. At the recent

WA State Tourism Conference held on 7 June 1996 in Perth, Mr Terry McVeigh, General Manager, Industry Development, WA Tourism Commission, also noted the emerging trend in Australia tourism of litigation for non-performance in the tourism product.

Obviously 'truth in the advertising and delivery' of products is going to be an important element of the business of ecotourism in the future. Hence the need for accreditation of operators currently being undertaken by the Australian Government.

Another key issue facing Australian Ecotourism is the place of our indigenous people and culture. A key characteristic of the Australian definition of ecotourism is that it is based on cultural as well as natural values. In this regard the National Ecotourism Strategy advocates that cultural involvement requires consultation and negotiation with local communities (particularly indigenous communities) and organisations responsible for the management of Cultural heritage values (Australian Department of Tourism 1994a:18).

However, rhetoric aside, the reality is that there is minimal involvement in ecotourism by indigenous people in Australia despite the strong demand for it by international visitors. Yet to leave people out of the equation in the visitation by tourists to natural areas is merely to replicate the western view that wilderness areas must be areas where humans do not live. This is errant nonsense and badly needs to be addressed in Australia.

Finally, a key point in regard to ecotourism is that it is a business without a sound product, well managed, and a consumer focus, any ecotourism business will struggle to survive. One of the basic tenets of ecotourism is that it should not only be economically viable for the business owners but that it should also provide material well-being to local communities. By extension this should also bring greater regional benefits. In addition it should also provide finances for resource conservation. The profitability of ecotourism and flow of money and resources back to a local area and its community is axiomatic to the development of ecotourism.

Ecotourism Trends

There are a number of trends in Australian ecotourism. They include the strong market demand, its high profile nature, its increasing professionalism, widespread application of techniques, and the fact that it is a growth industry.

There is strong market demand for ecotourism in Australia as already noted earlier in this paper. This is evidenced by the worldwide growth of tourism being 8% per annum with the growth in ecotourism being 30%. Australian tourism growth is 10% per year and will double in next decade with the country being ranked 1st or 2nd as preferred holiday destination in 9 out of 14 international categories. Key markets for Australia include the USA, Japan, Britain and Germany. The State of WA is just about to launch a marketing plan to position itself as the No. 1 Ecotourism and Adventure Tourism destination in Australia.

Ecotourism is a high yield industry. Ecotourists are usually older, educated, and affluent. They do not mind paying for the high costs associated with ecotourism and are used to using technology so many of their ecotour enquiries bookings are transacted via the internet and email.

The industry is also undergoing increasing professionalism. The EAA has prepared a code of ethics for tourists and code of practice for operators and the National Accreditation Scheme provides an opportunity for tourists and operators to promote bonafide ecotourism operations. The recent reports on Education and Training and Best Practice Ecotourism also underpin the emerging professional nature of the industry. Ecotourism has widespread application and it can act as an exemplar for other forms of environmentally responsible tourism through the promotion of best practice in planning, design, management and operations. Lessons learned in the ecotourism industry can be applied to all types of tourism, for example, through the greening of hotels and resorts

Ecotourism is a growth industry. The emergence of a vast range of specialist ecotours such as ecocruises is having an increasing impact on the tourism industry in Australia. With the 2000 Summer Olympics to be held in Sydney Australia is heading for a major tourist boom and many of this increased influx of tourists will impact on ecotourism. The question now is will Australia be ready for it?

THE FUTURE

The growth of ecotourism in Australia comprises far more than the above. There have been numerous books, courses, reports, workshops, strategies and other events which have occurred in the past, are happening now, or are planned for the future. In late 1993, Geoffrey Lipman, President of the World Travel and Tourism Council, predicted that ecotourism would be the rising star for Australian Tourism in the coming decade and beyond. Leading the charge is the EAA which has clearly demonstrated its commitment to, and leadership in, the future development of ecotourism in the southern hemisphere.

The ecotourism industry in Australia is at the leading edge of ecotourism worldwide with a National Strategy, rapidly growing Association, multitude of training and education courses, innovative built design principles, water and waste minimisation practices, marketing strategies such as using the internet; and the forthcoming national ecotourism accreditation scheme. The future of the industry looks bright and the next steps to be taken are ones which will move the industry forward in a professional manner based on the already established firm foundation of an environmentally sustainable, educative and ethical industry. The challenge for the future is to maintain Australia's industry edge while not compromising the environment.

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Environmental Guidelines for Coastal Tourism Development in Tropical Asia

by

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ABSTRACT

Environmental guidelines for coastal tourism development in tropical Asia are presented. Coastal environmental resources which attract tourists and the threats to these resources from tourism development are described. Beaches and coral reefs in particular, and the general coastal environment are evaluated in relation to the potential impacts of tourism development. It is suggested that maintaining the integrity of these ecosystems is essential to support coastal tourism. Guidelines for coastal development include: site selection for a tourist establishments; setbacks from the beach; landscaping and vegetation; construction activities; waste-water; sewage; solid waste disposal and management of scuba-diving activities. An integrated planning and implementation framework for coastal environmental management is described. An emerging model of participatory coastal tourism development is explained which includes sufficient economic analysis to highlight the potential economic benefits of proper environmental and social management. It is suggested that without integrated, large scale area planning and without the adequate participation of the stakeholders in the process, coastal tourism will continue to develop in mis-guided ways and impact negatively on the physical and social environment in tropical Asia.

INTRODUCTION

Tourism in developing nations plays an important role in obtaining foreign exchange and providing employment. Growth in this sector has been rapid over the past few decades and is occurring faster than in developed nations due to the year long availability of sea, sun and sand (Wong 1991). Since most developing nations do not have regulations or resources for coastal environmental protection, economic gain has been the primary focus of tourism. Thus, most coastal tourism has had negative environmental and social impacts which will increase with expansion unless preventive measures are adopted.

In tropical Asia, coastal tourism is developing very rapidly and accounts for a significant portion of all tourism. In Sri Lanka for example, coastal tourism includes 80 percent of the total tourism infrastructure in the country and a sizeable portion of the national economy (Olsen et al 1992). Sandy beaches, warm tropical waters, coral reefs, lush vegetation and interesting coastal fishing cultures are some of the primary natural and physical attractions of tropical Asia's coastal region for tourists.

There are many examples in the region where coastal tourism has had severe negative impacts on the environment. The well known examples of Pattaya Beach, Thailand and Hikkaduwa, Sri Lanka are indicative of what can happen with over-development without consideration for carrying capacity and the balance between development and nature. Phuket Island is another area of development without concern for major environmental and social impacts. Malaysia is also pursuing a model of large resorts in some areas which will change the local social and physical environment in significant ways. In the Philippines, development is typically with small resorts which are somewhat integrated with local culture and environment. But, even there, most coastal resorts are poorly planned with respect to the protection of those resources which attract the tourists, namely coral reefs, near shore water quality and clean beaches.

Improper sewage disposal and treatment by hotels and restaurants has led to groundwater contamination and decreased coastal water quality in most densely developed coastal tourism enclaves. It is only now that installing sewage collection and treatment facilities is becoming recognized as a necessity for areas like Pattaya; Phuket; Mactan Island, Philippines; Hikkaduwa; and many other locations. It is being recognized that environmental degradation is leading to tourism declines when it becomes too severe. Without better safeguards and management of coastal resources, significant declines of net economic benefits are anticipated within the next 5 years in some areas. Conversely, if proper sewage and solid waste systems are installed, and the coastal environment is protected in these areas, increased tourist arrivals can be accommodated, resulting in higher net economic benefits.

An associated problem for the implementation of environmental guidelines for coastal resources, is that there is no tax collected for use of coastal resources. Developers assume free access and do not charge tourists for access to beaches or nearby coral reefs. Yet, special efforts are almost always required to maintain these resources and their benefits in good condition. Thus, the opportunity cost of access to healthy natural resources is not being recovered through the present tourism economic structure.

There are some examples of small-scale coastal tourism which are environment friendly. In the Philippines, several beach resorts are encouraging coastal conservation. Local communities which benefit from visitors who snorkel, scuba dive, bird watch or just lay on a beach, realize the need to protect these resources. Unfortunately, many larger resorts tend to keep their guests happy by trying to create internal environments which completely ignore the broader impacts to the environment outside the resorts.

The importance of coastal environmental planning and cost sharing in the management of coastal resources in the development of tourism, are themes of this paper. A planning model for coastal resources management is presented which shows how participation of local communities, together with their local and national government, is essential to promote sustainable development planning and coastal resources management.

COASTAL ECOSYSTEMS AT STAKE

Tropical Asia has a diverse coastal environment with a variety of ecosystems comprising an extremely rich biodiversity. Sandy beaches, coral reefs, rocky headlands, mangroves, wetlands, estuaries, lagoons and sea grasses are typical. Each ecosystem plays a critical role in maintaining the health of the coastal zone as well as in maintaining the health of each other. This interrelatedness makes the coastal zone one of the most sensitive geographic areas. Damage to a coral reef, for example, will allow greater wave action on shore, causing beach

loss. Alteration of one feature of the coastal zone usually causes damage to another feature, either directly or indirectly.

Maintenance of coastal ecosystems is important in sustaining the tourism industry. The primary coastal ecosystems in tropical Asia, their benefits to tourism and the impacts of tourism development are described below and summarized in Table 1.

Beaches are the focal point of coastal tourism since many tourist activities depend on clean beaches. Beaches are dynamic, unstable systems which are constantly subject to the forces of erosion, the removal of sand; and accretion, the deposition of sand. Many beaches are part of eroding systems, causing economic losses to property owners and to the tourism sector. Beach loss from human activities, sometimes tourism related, is generally caused by:

- Sand and coral mining in coastal areas;
- Building structures which inhibit long shore sediment transport; and,
- Construction of groins and seawalls which adversely affect adjacent coastal areas.

Coral reefs are a valuable tourism asset which attract many tourists for snorkeling and scuba diving. Healthy reefs are important not only ecologically, but also economically. Potentially damaging tourism-related activities of coastal development on coral reefs include:

- Increased siltation and sedimentation from dredging, filling, or coastal construction;
- Pollutants and excess nutrients from waste disposal and sewage discharge;
- Discharge of large volumes of fresh water from storm water outfalls, increased surface runoff from surface paving or vegetation removal; and,
- Coral breakage from guests exploring the reef, anchor damage or collection of organisms for sale or souvenirs or for recreation such as by spear fishing.

Coastal wetlands which include sea grass beds, lagoons, estuaries and mangroves are important to tourism at two levels. They remove pollutants from water flows before they enter the main water bodies. This function protects beaches and coral reefs and coastal water quality-the most important coastal tourism assets. Second, wetlands can provide direct benefits such as settings for bird watching and nature photography, canoeing and other water sports. Ecologically, wetlands provide spawning and nursery habitat for juvenile fish, crustaceans and mollusks. Human activities which impinge on wetlands are many, those related to tourism are:

- Removal of mangrove habitat for resort construction;
- Disposal of sewage and solid waste into wetlands; and,
- Construction of obstructions to the natural water movement within or between wetland water bodies.

COASTAL ENVIRONMENTAL CARRYING CAPACITY

Most problems related to coastal development are the result of placing an excessive demand on limited coastal resources, a condition known as exceeding the carrying capacity. The carrying capacity of an area refers to the capacity of an ecosystem to sustain multiple resource uses. Carrying capacity is not a fixed amount and varies with geographic areas as well as human uses (Clark 1992;1995). Carrying capacity can be reduced by both human and natural forces or can be maintained or increased through proper planning and management. When

Table 1. Potential development impacts on coastal ecosystems and tourist activities which may cause them (adapted from CCD, 1990).

Coastal Habitats	Impacts of Concern	Tourist Development Activities Which May Cause These Impacts
Coral Reefs	- Physical damage to coral reefs and collection of reef organisms beyond sustainable limits. - Increase in freshwater runoff and sediments. - Introduction of waterborne pollutants.	- Reefwalking, collection of souvenirs from reef, spear fishing - Land clearing for construction - Fresh water influx from waste water pipes from poorly treated sewage and improper disposal methods
Estuaries/lagoons	- Encroachment - Changes in sedimentation patterns - Changes to the salinity regime - Introduction of waterborne pollutants - Destruction of submerged and fringing vegetation - Inlet modifications - Loss of fishery habitat	- Land-filling for siting of structure - Placement of structures on beach/in coastal waters - Fresh water runoff (see coral reefs) - From run-off, sedimentation, recreational uses - For harbor maintenance, siting considerations - From land-use modifications, increased run-off, sedimentation; pollution increases from sewage, waste water disposal
Mangroves	- Changes in freshwater runoff, salinity regime and tidal flow patterns. - Excessive siltation - Introduction of pollutants - Conversion of mangrove habitat and over harvesting of resources	(see coral reefs, estuaries/lagoons) - From construction activities, waste-water discharge, sewage. (see coral reefs, estuaries/lagoons) - For use as a tourist development site
Sea grass beds	- Physical alterations - Excessive sedimentation or siltation - Introduction of excessive nutrients or pesticides	- By boat anchoring, recreational activities, increased run-off (see above) - Sewage, waste-water discharge
Salt Marshes (tidal flats)	- Degradation of bird habitat or seed fish collection sites - Obstruction of storm-water runoff	- From discharging wastes, physical alteration for tourist uses. - From altering tidal flats for development purposes.

resources are utilized beyond their carrying capacity, overall benefits start to decrease, resulting in economic decline, loss of employment, income and foreign currency earnings. Tourism development in such an instance, is negatively impacting the region and will eventually cause a decline in tourism as seen in Pattaya Beach and Hikkaduwa.

Carrying capacity can be physically, environmentally, or socially limited (Pearce 1986). The overall relationship between carrying capacity and coastal tourism development for both social and environmental limits is shown in Figures 1 and 2.

When carrying capacity is reached or exceeded for a given area or activity, there are usually mitigating measures that need to be taken. Proper planning of development on the other hand, can prevent the need for mitigating measures. Preventive planning is important because many negative impacts are not easy to reverse. For example, the chain of events set-off by the impact of erosion from vegetation removal may be very complicated and long-term in effect as shown in Figure 3.

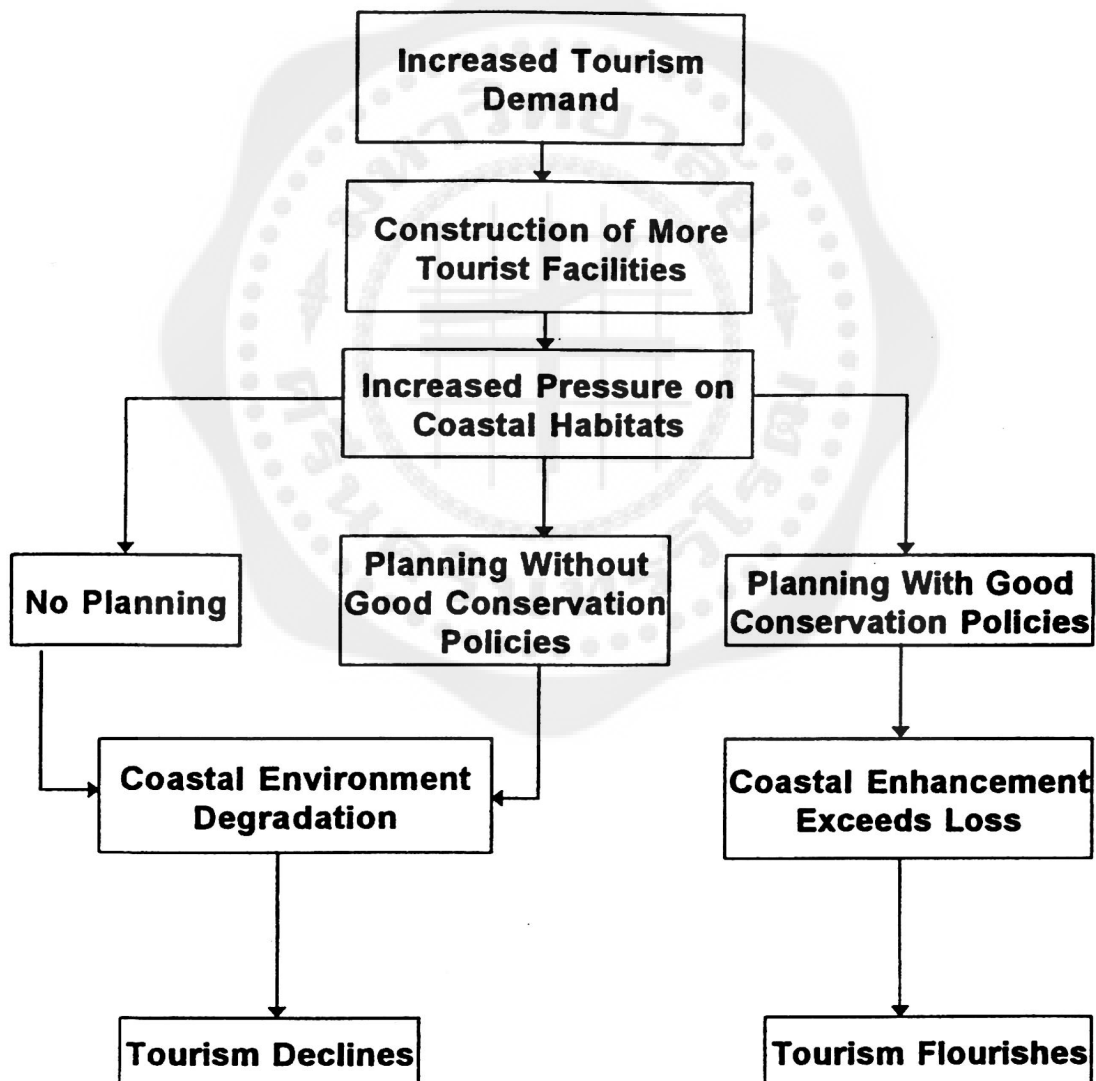


Figure 1. The relationship between tourism development and conservation planning

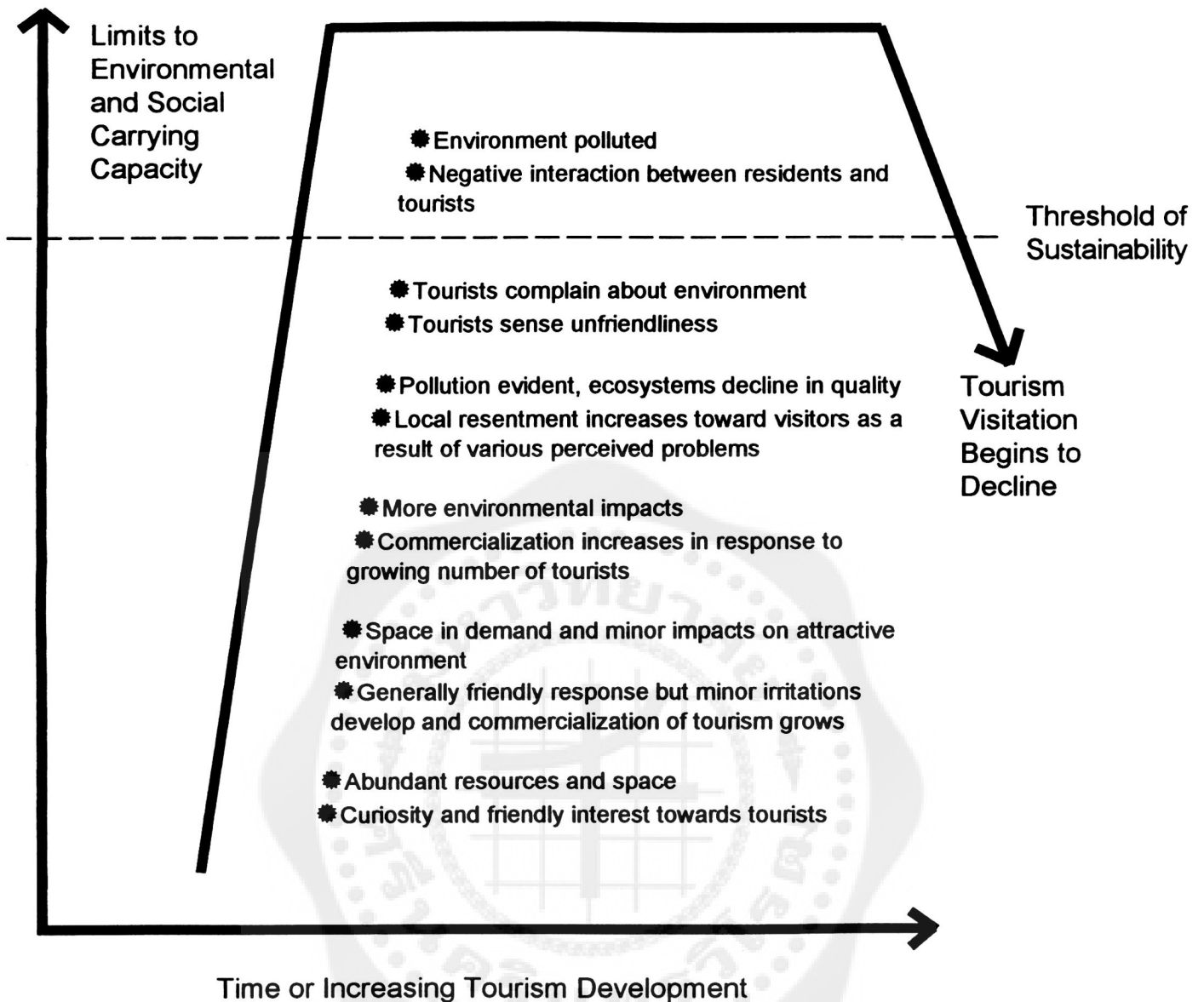


Figure 2. The relationship between tourism development and carrying capacity (adapted from Murphy 1983)

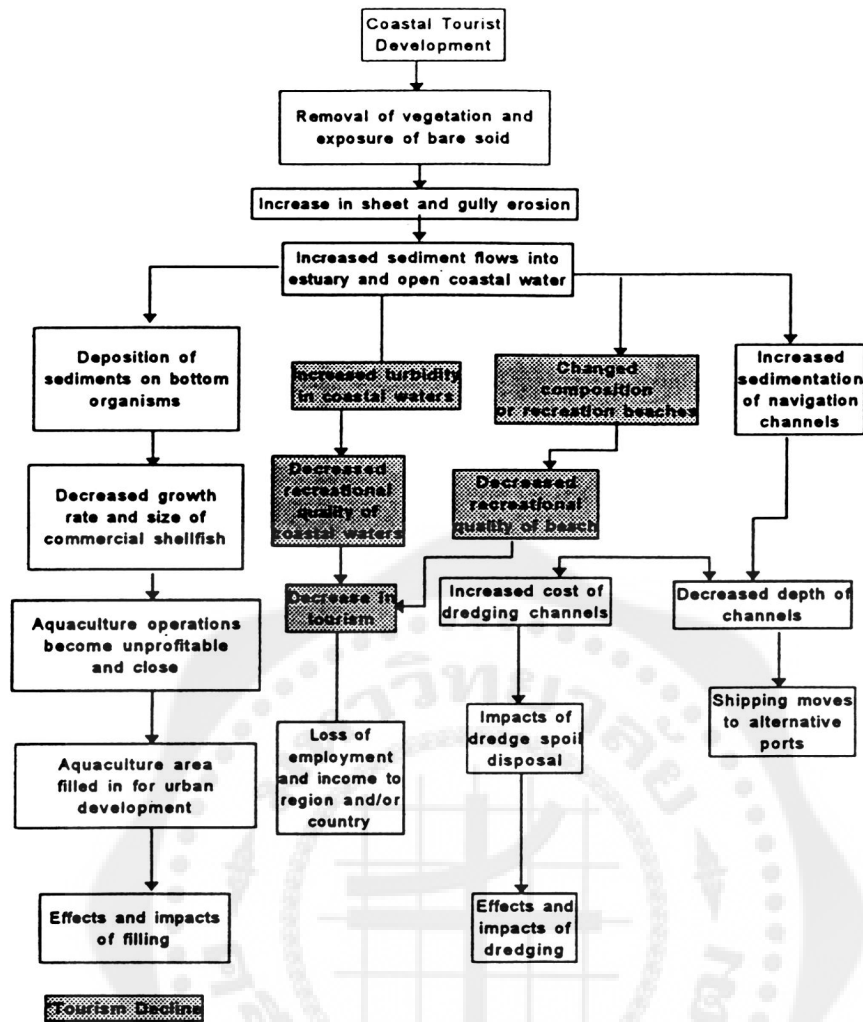


Figure 3. A coastal tourism impact network with direct and indirect impacts (adapted from Sorensen and West 1992)

GUIDELINES FOR COASTAL TOURISM DEVELOPMENT

The common coastal ecosystems and their linkages must be considered in planning for development. Natural beach erosion processes and sand transport dictate setback requirements and the need to maintain natural beach vegetation. Marine and fresh water quality maintenance is determined by the type and impact of coastal facilities and their waste treatment process. Because disturbed and polluted systems repel tourists, careful maintenance and enhancement of the coastal system is the only sustainable path for tourism development.

Planning and development in coastal areas is generally not sufficiently systematic, leading to decline in environmental quality and carrying capacity. Voluntary measures by private developers and individuals are necessary to change this pattern, thus preserving the scenic and natural attractions of the coastal zone. The following recommended guidelines cover sighting considerations, set backs, landscaping, water supply, sewage, waste water and solid waste disposal (Sullivan et al 1995). A summary of potential direct and indirect impacts of tourism development with accompanying mitigating measures is shown in Table 2.

Table 2. Summary of potential direct and indirect negative impacts and mitigation measures for tourism development

Potential Negative Impacts	Mitigating Measures
DIRECT	
Beach mining of sand for construction. Destruction of reef for aggregate materials used in construction.	- Control of construction contractor - Submission of plans in accordance with local ordinances on beach sand mining
Destruction of wetlands, forests, other unique/sensitive habitats or cultural, historical and archaeologically important sites.	- Areas considered for development should have zoning plans to account for natural geographic and socioeconomic condition - Base development phase on an inventory of resources
Erosion resulting from uncontrolled clearing, infrastructure construction such as roads and marinas.	Develop erosion and sediment control plans
Loss of "free" environmental services from natural systems and degradation of air, water, land resources.	Carrying capacity should be defined so that target tourist population can be sustained without overburdening existing infrastructure and resources
Water pollution from inappropriate sewage or solid waste disposal. - marine effluent disposal - residential sewage disposal - marinas - infiltration to groundwater	- Allowance made for use of existing municipal or regional collection and disposal system or construction of on-site sewage treatment plant - Liquid waste should not be discharged onto beaches, coral reefs, or other sensitive areas - Verify local capacity to monitor and enforce pollution regulations
Solid and liquid waste disposal creates nuisance conditions adjacent to amenities.	- Appropriate waste disposal options required to manage potential problem - Landfill versus incineration alternatives, as well as waste minimization will be considered
Access problems created - traffic congestion and noise - minor and localized air pollution - people density greater too high	Access problems minimized by integrated planning to reduce traffic and pedestrian congestion, noise
Sea turtle nesting affected (special case)	- Beach monitoring for turtle protection coupled with beach zoning and development guidelines to preserve the natural beach environment from the primary dune seaward - Restricting night activities and lights on nesting beaching during egg-laying and incubation periods
Displacement of human population.	- Plan and implement program of compensation and resettlement - Offer guidance for people in their newly resettled area

Potential Negative Impacts	Mitigating Measures
INDIRECT	
Conflicts with other resource use such as fisheries, agriculture	- o Conceive tourism development in framework of national, regional, local socioeconomic development plans to integrate new objectives into development strategies - o Identify zones most suitable for tourism
Beyond capacity to manage the "tourist or related environment" - o legislation and polling constraints - o agency support lacking - o staffing and financial resources to mitigate impacts absent/reduced - o inadequate training in environmental management	- o Comprehensive legislative action frequently required to address direct and indirect impacts and their monitoring and evaluation - o Staffing and equipment support must be budgeted, including whatever training necessary to mitigate impacts and monitor the "environmental protection plan" or other mitigation plan
Multiplier effect on other industries causes increased stress on natural resources or services (craft market, vendor, taxi driver, suppliers, farmers/fishermen).	- o Provide adequate infrastructure and services support to meet physical, social and economic needs of the region - o Recognize that "overbuilding" may be a persistent problem
Congestion, overcrowding	o Design (urban areas and transport networks, etc.) according to carrying capacity of natural setting
Natural hazards peculiar to developed site such as coastal storms, flooding, landslides, earthquakes, hurricanes, volcanos, may stress infrastructure and reduce long-term benefits	o Design facilities to (a) meet best possible specification for natural hazard amelioration; (b) take advantage of natural resources such as wetlands ability to buffer storms or absorb treated wastewater

Site selection for a tourist establishment often governs what environmental impacts occur in both the short and long term of the project. Supporting facilities for tourist resorts should be located away from the coast as much as possible. Locating these facilities on the shoreline occupies valuable space, pollutes near shore water with increased surface runoff and greatly increases the chances of storm damage (Rees 1990). In determining the site of a resort, several basic questions should be asked and answered which are normally part of an Environmental Impact Assessment as suggested by the World Bank (1991):

- Description of the proposed project and its setting with maps at appropriate scales;
- Description of the environment which includes information on the natural ecosystems of the area as well as other human uses or zones as declared by the government;
- Description of the pertinent regulations and standards governing environmental quality, health and safety, protection of sensitive areas, protection of endangered species, sighting, land use control, rights of indigenous peoples, etc.
- Determination of the potential impacts of the project in relation to environmental carrying capacity, social carrying capacity and physical carrying capacity of local infrastructure and public services.

Setbacks are one of the most important considerations in sighting a tourist resort. A setback is defined as an area left free of any physical modification. Setbacks are important because they allow for natural coastal processes to occur uninterrupted and ensure both physical and visual access to the coastline. Objectives of setbacks are (CCD 1990):

1. Protecting life and property against erosion and storm surge;
2. Minimizing public investment in coast protection;
3. Protecting and enhancing the scenic value of coastal environments;
4. Minimizing use conflicts among various types of activities taking place on the coast;;
5. Ensuring public access to and along the coast;
6. Maintaining consistency among national and regional laws and plans;
7. Protecting vulnerable coastal habitats, such as turtle egg-laying grounds; and,
8. Providing buffer zones around coastal historical and cultural sites.

In Sri Lanka, the Coastal Zone Management Plan lists specific setback requirements for the different regions. A general allowance of 60 meters from the mean high water mark is considered desirable (CCD 1990). Benefits to tourists of large setbacks include:

- Shade from the sun and heat by natural coastal vegetation;
- Place for artists, photographers and others to work and sit; and,
- Open space to enhance the view of the coastline and ocean.

Landscaping is a key aspect of design for a tropical coastal resort because of the need for shade. The best approach concerning vegetation removal and landscaping is to leave as much of the pre-existing vegetation in place as possible. Removal of large amounts of vegetation will increase erosion of valuable topsoil, siltation and pollution to local waters, and add to overall costs of the project.

Construction activities are often responsible for much of the environmental damage which occurs in the coastal area. During construction, vegetation is removed and destroyed which increases erosion. The construction phase of a tourism project requires well planned use of existing space, vegetation, soil or other natural features and resources so that all damage and pollution is minimized to the local area. In addition, post-construction rehabilitation of disturbed areas should be undertaken.

Water supply is often limited although tourist hotels use large amounts of water. In planning a resort, water supply must be carefully analyzed. Surface and ground water are the two main sources. Surface water is often polluted and unsuitable for human use. Ground water supplies most coastal hotels in the country although this is also increasingly polluted. Most hotels require water purification systems. Water demand can be minimized by (Brannan et al 1991):

- Using low water demand toilets which use only one-fifth the water of older toilets (5 liters per flush compared to 25 liters in older toilets);
- Using low volume shower and water basin nozzles designed to use about one-third the water of older designs; and,
- Recycling gray-water for use in garden watering.

Wastewater, storm water and sewage must be disposed appropriately to avoid pollution problems. In tropical Asia, most hotels use a septic system for sewage and dispose their wastewater (gray-water) to open ground or into the sea or beach. Thus, most create some

pollution. Lack of public infrastructure places design responsibilities with individual developers. Design considerations will include size of proposed project, topography of the site, height of water table at the site location, and location of fresh water wells. As fecal contamination of groundwater supplies is a concern, careful planning of these amenities is essential.

Guidelines for disposal of wastewater are listed below in order of their desirability:

1. Diversion for use in agricultural lands or for lawn watering;
2. Disposal to a common sewer if one exists;
3. Connection to septic tank system soakage pit if the system and the soil are capable of absorbing the extra liquid; and,
4. Soakage pit or field depending on soil percolation rate.

Water flowing on the surface during or immediately after a rain storm, storm water run-off, can cause property damage, flooding, water pollution and erosion. Therefore, coastal tourist facilities must be designed to limit changes to natural run-off patterns and to compensate for those disruptions that are unavoidable. Several objectives of storm water management are:

- Prevent flooding resulting from storm water surges;
- Prevent pollution of surface, ground, and coastal waters by removing pollutants acquired from septic systems, pesticides, or other pollutants;
- Recharge groundwater to minimize potential water shortage;
- Prevent soil erosion, cave-ins and damage to building foundations;
- Prevent siltation of adjacent water bodies; and,
- Prevent large freshwater surges to sensitive areas such as coral reefs and estuaries.

Sewage is normally treated in sewage treatment facilities in developed countries. In tropical Asia, since few exist, sewage is either piped into the ocean or other water bodies, or disposed of through septic systems. Most tourism facilities use septic systems and a few larger ones have their own treatment plants. The design of an adequate septic system depends on the size of the hotel serviced and the soil drainage characteristics of the surrounding area. Since contamination of potable water may occur from a septic system, it must be placed in relation to any existing water-well. Septic systems must also be installed above the natural water table during the rainy season.

Solid waste disposal is a difficult process everywhere. Public infrastructure and awareness are lacking and few disposal systems are operational. Thus, solid waste is dumped randomly into wetlands, lagoons, on the seashore or in vacant lots. Resorts independently make arrangements for their solid waste disposal. Considerations to minimize solid waste and encourage proper disposal include:

- Recycle any waste which has a reusable value;
- Use organic waste for composting material;
- Encourage local authorities to locate and enforce a site for solid waste disposal; and,
- Consider an on site incinerator or landfill.

Solid waste disposal systems can recycle most wastes generated by various hotels and resorts in Asia. It is cost effective through the economy of scale for several hotels to join their waste treatment and recycling facility. Three hotels in Negombo, Sri Lanka, now channel all their waste into a facility which generates biogas, reusable water for gardens, saleable solid wastes and compost material for sale or use in the hotel grounds.

PLANNING FRAMEWORK FOR COASTAL DEVELOPMENT

Development activities including tourism and their environmental impacts are the concern of a number of government non-government agencies in tropical Asia. These typically include:

1. Investment Boards
2. Tourist Agencies
3. Environment and Resource Management Agencies
4. Urban Planning Agencies
5. Fisheries and Aquatic Resources Agencies
6. Local government agencies: Municipal Councils, Urban Councils and Utility Districts
7. Non-government environmental and trade associations

The variety of agencies, public and private, make it very difficult to plan and implement environmental guidelines for tourism development in an effective manner. Also, many large tourism development projects, are relatively exempt from regulation because they are seen as bringing investment and jobs and thus, are not carefully scrutinized. This situation requires a more comprehensive planning framework which is integrated and considers cause-effect relationships within both the environmental and social-economic sectors of the area.

A model for planning and implementing guidelines for coastal resources management has evolved in Sri Lanka and is beginning in the Philippines and Indonesia. The model is proactive and considers the environmental guidelines presented above in a participatory planning framework. The approach referred to as Special Area Management in Sri Lanka or Integrated Coastal Resources Management (ICRM) in the Philippines and Indonesia provides management guidelines and plans for development. It builds up a participatory plan and regulation framework which is enforced through the active participation of local and national government jointly with the private sector and community groups. Figure 4 portrays this ICRM planning approach.

The plan development process for a Special Area Management plan for Hikkaduwa, Sri Lanka is shown in Figure 5. The plan, developed during a three-year, highly participatory process, addresses both the environmental and tourism development issues in a comprehensive and integrated manner. It is now being implemented with strong support of the private tourism sector together with the governmental regulatory agencies. A local-based coordination committee guides management actions in monthly meetings. The institutional arrangements for plan implementation are shown in Figure 6.

ECONOMICS OF COASTAL ECOTOURISM IN TROPICAL ASIA

Coastal ecotourism must be broad in concept to have real meaning. Since the tourism industry is capital intensive with investments in large physical facilities, promotion of ecotourism and environmental guidelines can help ensure that these facilities be made environmentally and socially friendly. The negative impacts of inappropriate large or small-scale tourism development must be minimized. In addition, the tourism industry needs to be encouraged to assist with the cost of preventing environmental degradation. This will occur partly from internal government and non-government organization pressure through regulations and enforcement, partly through education and peer pressure among increasingly concerned tourism developers and partly through values brought by tourists.

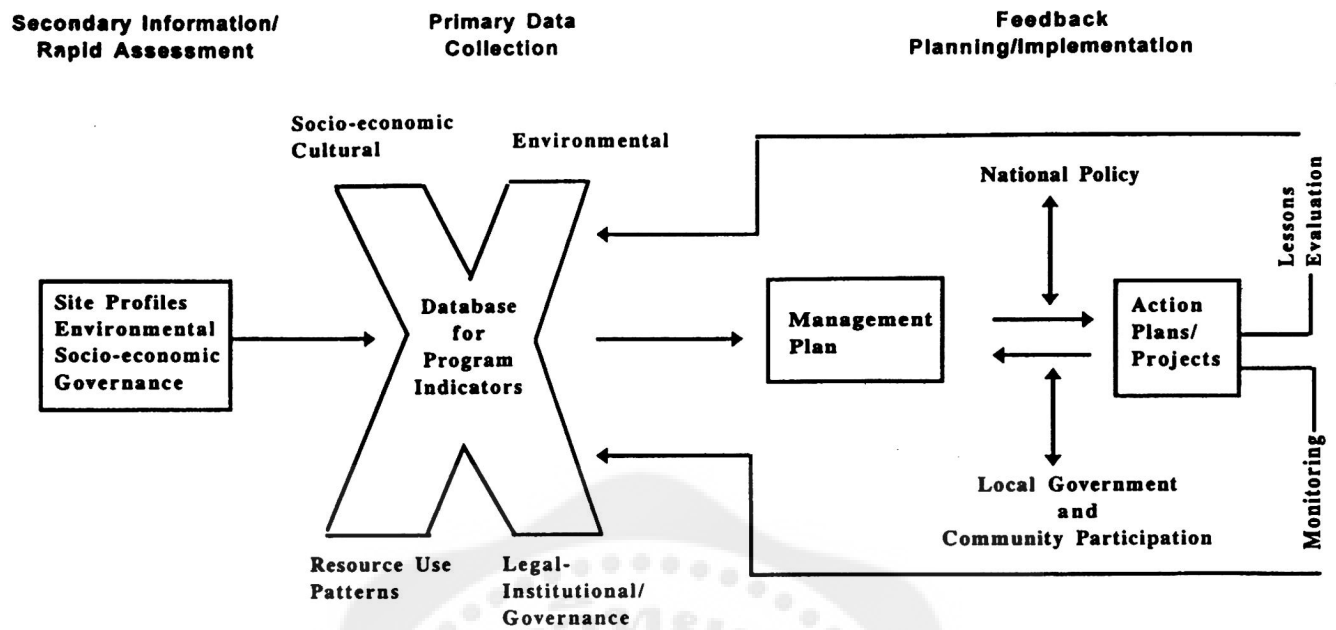


Figure 4. Cyclical coastal resources management data collection, monitoring, planning and implementation process (White and Lopez 1991)

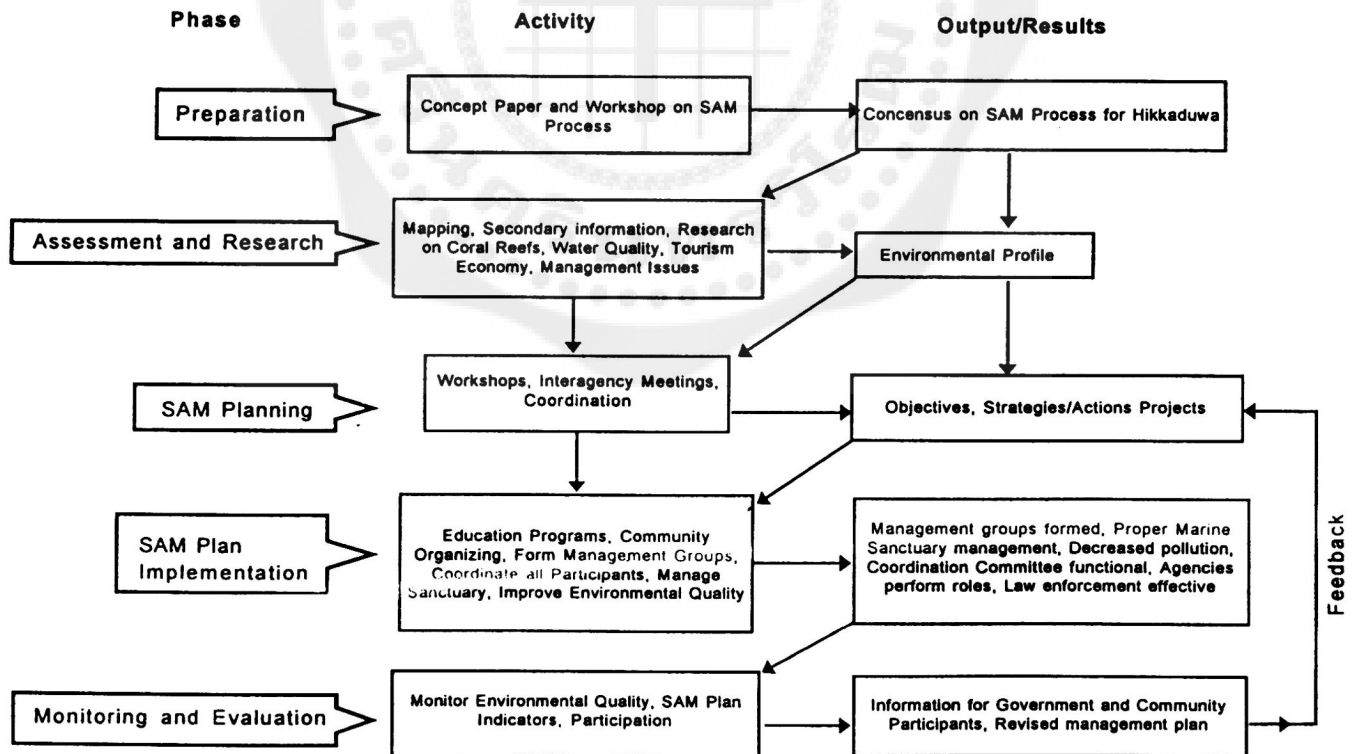


Figure 5. Special Area Management process for Hikkaduwa (White et al 1996)

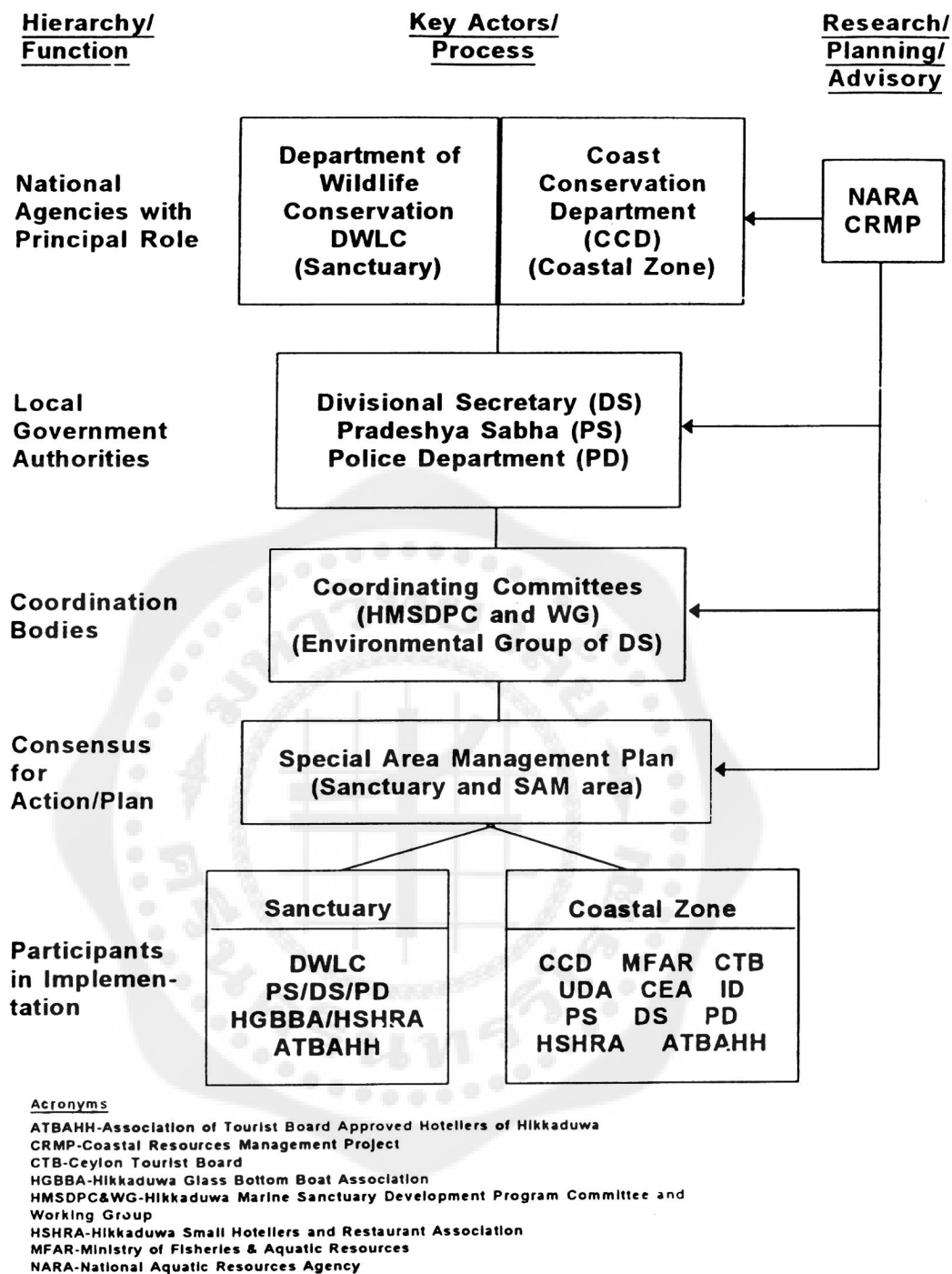


Figure 6. Institutional framework for planning and implementing the Special Area Management plan for Hikkaduwa, Sri Lanka

Justification for implementing coastal resources management plans which include tourism development activities, is relatively easy to measure in economic terms. Simple economic cost-benefit analysis comparing the cost of proper implementation of environmental management plans compared to potential benefits of increased tourism revenues are being conducted. Citing Hikkaduwa in Sri Lanka where development has taken the course of least resistance and exploited the coastal environment beyond its carrying capacity, a strong economic case can be made for coastal resources protection and management. Net degradation is causing a decline in tourism and losses to the local economy and environment (Tantrigama and White 1994).

In Hikkaduwa, if environmentally friendly tourism is to prevail, the tourist industry must be willing to pay the cost of reparation and maintenance of the coastal water quality, beach and coral reef. The hoteliers of Hikkaduwa will need to pay for maintaining waste disposal facilities through a communal sewer system and solid waste disposal unit of the town. Taxes or fees will need to be collected. The quality of the environment will need to be monitored so that changes in the condition of water quality or coral reefs for example, can be reflected in management efforts (Figure 7).

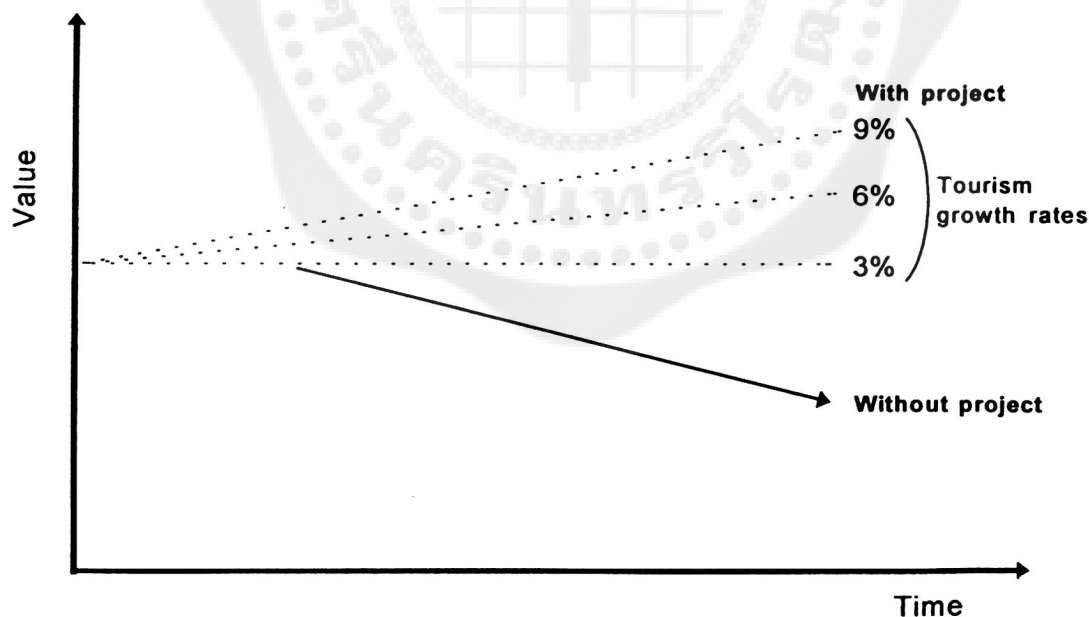


Figure 7. The value of environmental benefits over time “with” and “without” plan implementation in Hikkaduwa (White et al 1996)

Currently in Hikkaduwa, the Special Area Management process is attempting to develop an integrated and multi disciplinary management plan for the town, its coast and marine sanctuary (White and Samarkoon 1994). The planning process includes analysis of the tourism sector in relation to the cost of managing and conserving the coastal environment. It has been shown that the local tourism economy could easily afford to pay for management of the coastal resources and environment (White et al 1996). The cost of such management is a small portion of the profits generated by the hotel and restaurant sector of the town (Figure 8). It has also been shown that the potential consumer surplus of tourists to Hikkaduwa has not been tapped for support of the environment. Thus, in spite of its overdeveloped coast, Hikkaduwa through the local stakeholders, with support of government and tourists, can make a significant positive change in the state of the coastal environment.

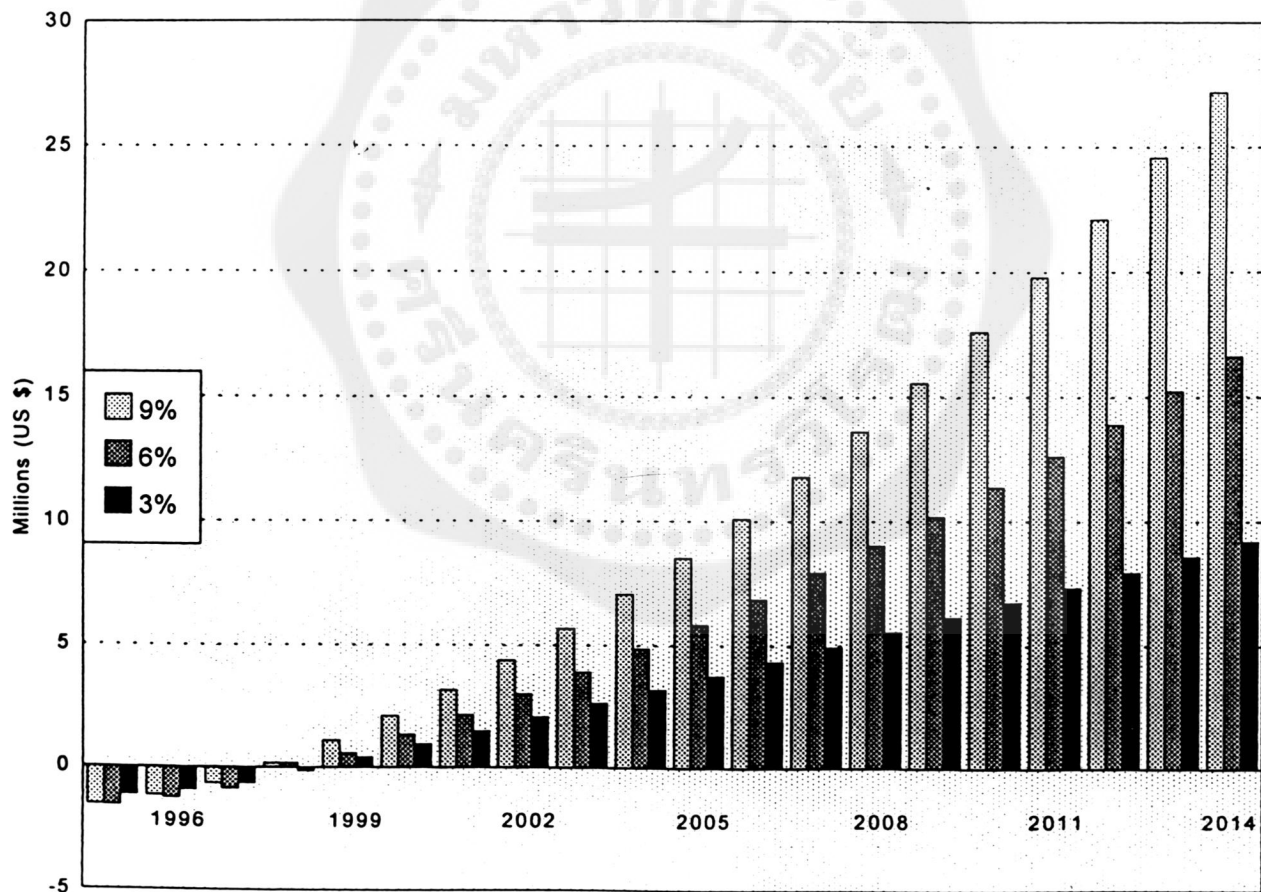


Figure 8. Cumulative socio-economic net present value for 9, 6 and 3 percent tourism growth in Hikkaduwa with Special Area Management plan implementation (White et al 1996)

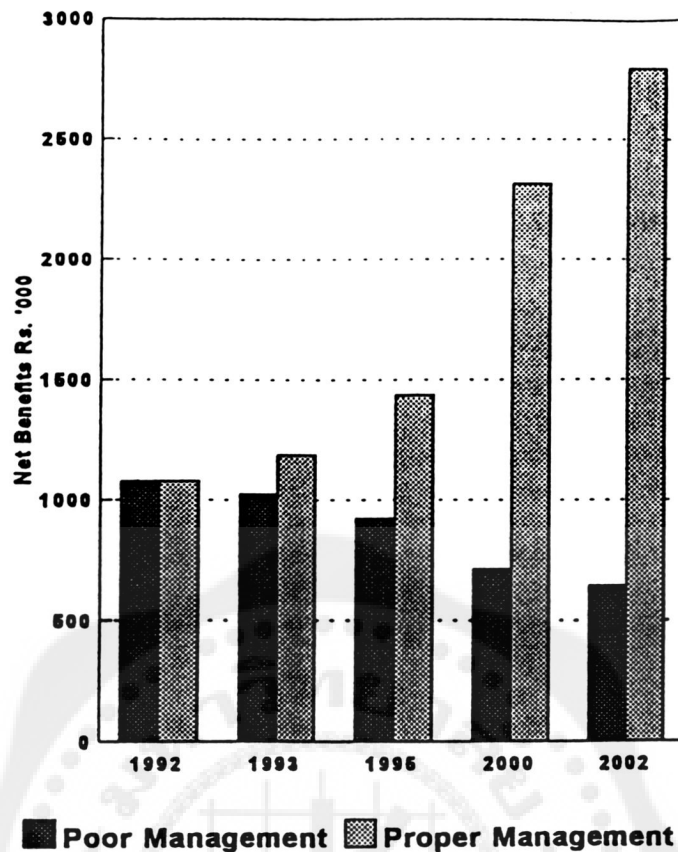


Figure 9. Project revenues from poor and proper management of coastal resources in Hikkaduwa (Tantrigama and White 1994)

FINAL COMMENT

Ecotourism has many definitions ranging from tourism which caters only to true nature-loving tourists to large scale tourism which is environment friendly. Whatever definition we choose, for coastal tourism to be truly supportive of the environmental and social integrity of a tourist site, it must include preventive environmental planning and means for mitigation of negative impacts. And, any viable coastal tourism enclave must consider cost-sharing and participatory arrangements whereby the tourism industry assists with maintenance of environmental assets. Without such actions, tourism will decline in overdeveloped and degraded sites in tropical Asia as depicted in Figure 9.

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REGIONAL ECOTOURISM PLANNING STRATEGIES

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ABSTRACT

Ecotourism is predicated upon the concepts of sustainable development which fosters economic development, environmental protection and community wellbeing. Ecotourism planning provides the opportunity to achieve these goals by presenting a region's natural areas through the promotion of its own unique identity. It can create new and exciting tourism experiences, promote excellence in tourism, present and protect natural areas, benefit local communities and encourage commercially successful and environmentally sound tourism operations.

The vision for regional ecotourism development planning is to identify, encourage and promote a range of unique tourist and recreational experiences which can be sustained environmentally, socially and economically to meet the needs of visitors and the local community. This vision reflects the desire to have managed growth which maintains the lifestyle and environment for people who live in the region. The guiding principles developed for the practical ecotourism strategies should also reflect the overall vision for regional tourism development.

Principles which are of direct application for ecotourism planning include the priority given to ecological sustainability, the notion that ecotourism can foster conservation and that park protection and ecotourism can be compatible. Strategies to achieve the attainment of these goals includes the use of zoning to separate out competing land uses, the clustering of built structures, and an understanding of appropriateness and scale at the site level. The key to the development of the ecotourism product in a region is to establish products which are unique, authentic and manageable, ecotourism activities that are both environmentally and socially acceptable and ecotourism operations and marketing which must be ethical.

Two ecotourism strategies are briefly reviewed from Western Australia. They are the State Ecotourism Strategy and South West Region Ecotourism Strategy. The elements of the regional ecotourism strategy comprises Environmental Protection, Product Development, Infrastructure Development, Marketing and Promotion and Industry Involvement. Finally a number of conclusions are drawn in regard to regional ecotourism planning.

INTRODUCTION

Tourism is a diffuse and complex activity consisting of a wide range of elements which may be developed in a variety of contexts by a broad spectrum of agencies and developers each having different aspirations and capabilities. It involves both the diversity of tourist demand as well as the supply of multiple resources which might be developed for tourism. Tourism touches upon many sectors of society, is related to the economy in general, and may impact on society and the environment.

Pearce (1989) argues that unplanned, uncontrolled tourism growth when taken to the extreme can destroy the very resource on which it is built. By extension, Hall (1995) asserts that demands for tourism planning are a response to the effects of unplanned tourism development. Tourism planning is usually considered to be planning for tourism. This traditional view focuses on planning for tourist developments. However, Getz (1986) throws a different light on tourism planning by suggesting it should be viewed as a process based on research and evaluation which seeks to optimize the potential contribution of tourism to human welfare and environmental quality. In this approach tourism planning is regarded as an integrated activity which incorporates economic, social and environmental components, spatial (accessibility) concerns, and temporal (evolutionary stage) implications. In addition it recognizes the basic components of a demand (market) side and a supply (destination) side linked by transportation and communications. Underlying this approach is the need for tourism planning, and by extension ecotourism planning, to incorporate sustainable development principles.

SUSTAINABLE DEVELOPMENT AND TOURISM

Sustainability is generally taken to mean the existence of the ecological conditions necessary to support human life at a specified level of well being through future generations (Lele 1991). This involves:

- not using non-renewable resources faster than renewable substitutes can be found them;
- not using renewable resources faster than they can be replenished;
- not releasing pollutants faster than the biosphere can process them to be harmless.

Sustainable development is a form of managed economic growth that occurs within the context of sound environmental stewardship. The World Commission on Environment and Development (WCED) brought the term *sustainable development* into common usage (WCED 1987). According to the WCED, sustainable development is 'development that meets the needs of the present without compromising the ability of future generations to meet their own needs'.

The definition contains two important ingredients - human needs and environmental limitations. Human needs includes sufficient food, clean water, shelter and clothing, as well as those things which contribute to a better quality of life (eg. higher standard of living, greater consumer choice, more security, increased vacation opportunities etc). Limitation refers to the limit of the natural environment's ability to meet present and future needs.

Sustainable Tourism Development

During the late 1980s the sustainable development approach to tourism planning was advanced by a number of authors including (Inskeep 1987, 1988; Gunn 1988; Pearce 1989; Romeril 1989 a+b). Inskeep (1988) suggested that tourism planning cannot be carried out in isolation but must be integrated into the total resource analysis and development of the area with possible land and water conflicts resolved at any early stage. He noted that recently prepared tourism plans gave much emphasis to socioeconomic and environmental factors and to the concept of controlled development.

Sustainable tourism development recognises the inter-dependency between the long-term viability of economic investment in tourism projects, programmes and policies and the successful management of the natural, built and human resource bases. Therefore, sustainable tourism development seeks to maintain and enhance the quality of life, and the quality of the tourist experience, at destination areas through the promotion of economic developments which conserve (and where necessary preserve), local natural, built and cultural resources (Hunter & Green 1995:70).

In the case of the tourism industry, sustainable development has a fairly specific meaning - the industry's challenge is to develop tourism capacity and the quality of its products without adversely affecting the physical and human environment that sustains and nurtures them (Cronin 1990:13).

For tourism developments to conform to the principles of sustainable development, they should:

- Follow ethical principles that respect the culture and environment of the destination area, the economy and traditional way of life, the indigenous behaviour, and the leadership and political patterns;
- Involve the local population, proceed only with their approval and provide for a degree of local control;
- Be undertaken with (intra-generational) equity in mind, ie. with the idea of access to a fair distribution of benefits and costs among tourism promoters and host peoples and areas, not only now but in the future;
- Be planned and managed with regard for the protection of the natural environment for future generations;

- Be planned in an integrated manner with other economic sectors; and
- Be assessed on an ongoing basis to evaluate impacts and permit action to counter any negative effects.

(Cronin 1990)

Principles of sustainable tourism as outlined by the English Tourist Board include:

- The environment has an intrinsic value which outweighs its value as a tourism asset;
- Tourism should be recognised as a positive activity with the potential to benefit the community and the place as well as the visitor;
- The relationship between tourism and the environment must be managed so that it is stable in the long-term;
- Tourism activities and developments should respect the scale, nature and character of the place in which they are sited;
- In any location harmony must be sought between the needs of the visitor, the place and the host community; and
- Some change is inevitable and change can often be beneficial.

(ETB 1992)

Carrying Capacity Considerations

The idea of limitation raised in the concept of sustainable development refers to the limit of the natural environment's ability to meet present and future needs. Such a limitation is analogous to the concept of an area's 'physical carrying capacity'. There are two facets to tourism carrying capacity (O'Reilly 1986). The first deals with the ability of the destination area to absorb the impacts of tourism development, in a variety of ways, before negative impacts become evident. The second relates to the tourists' perceptions of environmental quality.

O'Reilly (1986) describes the various carrying capacities as follows:

1. **Physical** carrying capacity - the limit of a site beyond which wear and tear will start taking place or environmental problems will arise;

2. Psychological (or perceptual) carrying capacity - the lowest degree to enjoyment tourists are prepared to accept before they start seeking alternative destinations;
3. Social carrying capacity - the level of tolerance of the host population for the presence and behaviour of tourists in the destination area, and/or the degree of crowding users (tourists) are prepared to accept by others (other tourists); and
4. Economic carrying capacity - the ability to absorb tourism activities without displacing or disrupting desirable local activities.

Obviously these individual capacities are inter-related. Factors which influence capacity thresholds include the characteristics of the tourists and the characteristics of the destination area, including its local population.

GENERAL PLANNING PRINCIPLES

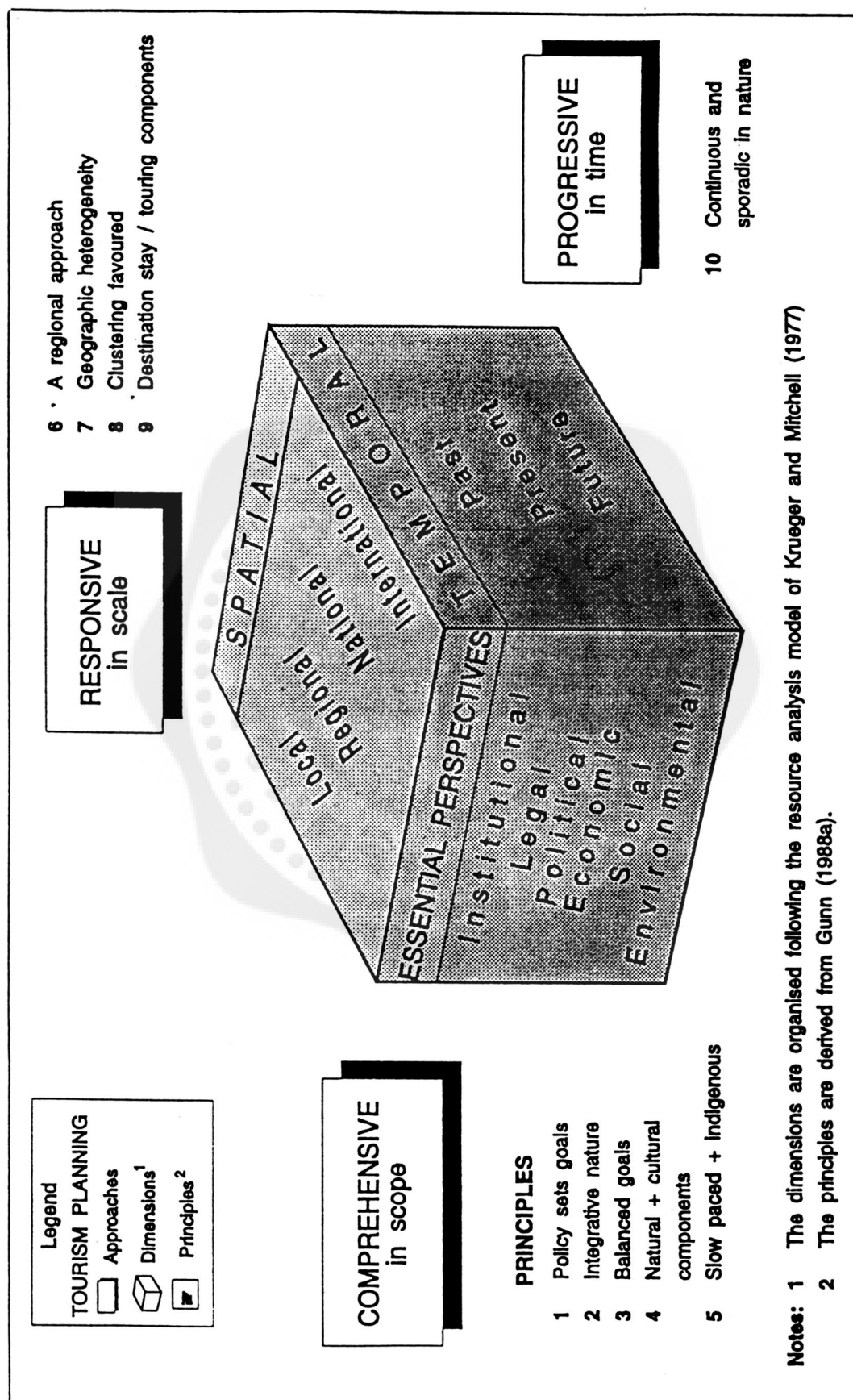
Underlying the various tourism planning approaches are a number of tourism planning principles all of which have application for ecotourism planning at the national and regional levels. The approaches can be summarized as having three dimensions - essential perspectives, temporal elements and spatial considerations (Figure 1). The dimensions can be organised following a model proposed by Krueger and Mitchell (1977) in relation to resource analysis. The essential perspectives comprise environmental, social, economic, technological, political, legal, and institutional elements. Analysis of resource problems may be pursued through one or more of these perspectives. Temporal elements include past, present and future considerations and spatial considerations refer to dimensions of scale from local to international. The addition of these components creates a matrix through which resource sectors, topics, problems or issues may be analysed.

These dimensions and their elements may be related to a number of tourism planning principles arrived at by Gunn (1994) at the close of his treatise on *Tourism Planning*. In an earlier edition Gunn (1988: 269) concluded that these principles were 'not hard and fast rules of tourism planning' but rather 'general principles that have evolved during the study for (his) book'. Ten of the principles are of direct application for ecotourism planning. They are:

Essential Perspectives

1. Policy sets goals and the administrative framework;
2. Integrative planning is needed for tourism;
3. Balanced social, environmental, and economic goals are essential;
4. Tourism planning requires understanding of the natural and cultural resources;

Figure 1 - The Components of Tourism Planning



5. Slow-paced, indigenous tourism is best.

Temporal Elements

6. Continuous and sporadic planning needs to be balanced.

Spatial Considerations

7. Urban-rural tourism demands a regional approach;
8. Geographic heterogeneity is a tourism planning postulate;
9. Clustering is superior to dispersal; and
10. Touring circuits and long-stay destinations require different planning.

(Gunn 1988: 269-278)

Drawing together the thrust of Gunn's (1988 + 1994) environment - tourism planning principles it is clear that some aspects of ecotourism planning are well established.

While the above forms a theoretical approach to ecotourism planning we will now examine two recent ecotourism planning strategies carried out in Western Australia (WA), one at the state level and the other at the regional level. They are the ecotourism strategies for WA and the South West Region.

THE WESTERN AUSTRALIAN ECOTOURISM STRATEGY

The WA Government recognises the potential of ecotourism to further contribute to the tourism industry and the Western Australian community. To ensure that the natural attributes unique to Western Australia are recognised and managed for sustainable ecotourism the State Government has produced A Nature Based Tourism Strategy for Western Australia (WATC & CALM 1995).

According to the strategy there is much debate and confusion surrounding the terms 'nature based tourism' and 'ecotourism' in recent times. Tourism that features nature is generally termed environmental or 'nature based tourism', a broad term that includes a range of tourism types including adventure tourism and ecotourism. For example, nature based tourism also encompasses cultural aspects because the cultures that visitors find attractive, particularly Aboriginal culture, are to a large extent shaped by the natural environment in which they have developed.

Likewise, ecotourism is a specialised segment of nature based tourism. Ecotourism relates to an experience in remote or natural areas that fosters understanding, appreciation of conservation of the natural environment and

sustains the resources, culture and economy of the local community. Whatever term is used, all tourism should be sustainable.

A great diversity of ecosystems and landscapes, combined with the magnificent climate and the living Aboriginal culture, gives Western Australia a distinct advantage as a destination competing for tourists. The existing nature based tourism industry contains around 200 operators and is growing. It comprises operations that are generally small and have been established by enthusiasts with backgrounds in conservation, wildlife or education, often amateur. Ecotourism is a niche market experiencing extraordinary growth but is only a small part of the total nature based tourism market.

Sustainability

Western Australia recognises that a healthy environment is essential if it is to maintain its economic and social systems. The strategy aims to maintain the very features and natural resources that provide Western Australia with a natural comparative advantage. Nature based tourism has considerable potential to impact negatively on the environment. Sustainable use ensures the base resources remain intact and viable.

The long-term viability of the nature based tourism industry depends on maintaining the integrity of the environment because quality experiences are directly linked to the quality of the environment. This is particularly true in Western Australia where the natural tourism assets are particularly fragile and, therefore, any activities need to be managed for long-term viability.

To assist in the development of sustainable tourism practices the state has a Code of Ethics for Tourism Development (WATC & EPA 1989). These ethics cover the environment generally but become specific at the site based level, that is, beaches and ocean frontage, remote environments, forests and national parks, waterways and wetlands, heritage and the built environment.

Resolving the problem that exists between appropriate use and acceptable impact invariably leads to permitting some degree of recreational and/or touristic development. The critical issue for land-use planning and management is not the number of people using an area or facility but the condition of the environmental settings which determine both the conservation value of the area and the quality of visitor experience it provides.

Consequently the environmentally ethical action must be that a tourism development or area should be scaled to operate within appropriate environmental carrying capacities. Determining the appropriate environmental and social condition for an area or site is the key. Only then can management actions be identified that will protect or achieve these conditions.

The WA Ecotourism Strategy identifies three key objectives related to the sustainability of tourism activities and developments. They are:

1. The need to be planned and integrated into specific reserve, local and regional planning frameworks;
2. Minimum environmental standards need to be defined, publicised and translated into controls; and
3. Models of 'sustainable tourism developments' need to be created as examples of how nature based tourism can be made both environmentally and economically sustainable.

The models need to consider the mechanism for funding the management, maintenance and protection of tourism resources and should include instruments such as 'user pays', entry fees, resource rents, licence fees, differential rating, taxes, levies, fundraising and grant funding. If these actions fail, the cost of maintaining the integrity of the nature based tourism resource will be borne by the taxpayer.

Sustainable ecotourism also requires training programs to be developed for tour operators that include natural resource education and the principles of sustainable use, and which specify the minimum standards required for nature based activities.

Zones of Opportunity

The WA Government has divided the State into a number of 'Zones of Opportunity' for potential tourism development (Figure 2). This strategy has chosen to focus on a geographic approach to the development of the zones. Identifying the endemic tourist resources of a specific area is fundamental to this approach (Figure 3). These features form the core around which other nature based tourism products can be developed.

Guiding Principles

The underlying goal of the WA Nature Based Tourism Strategy is to ensure that WA maintains its natural advantages and establishes itself as the major Australian nature based tourism destination.

The vision is further articulated by way of five guiding principles:

1. Conservation of the natural environment

nature based tourism must -

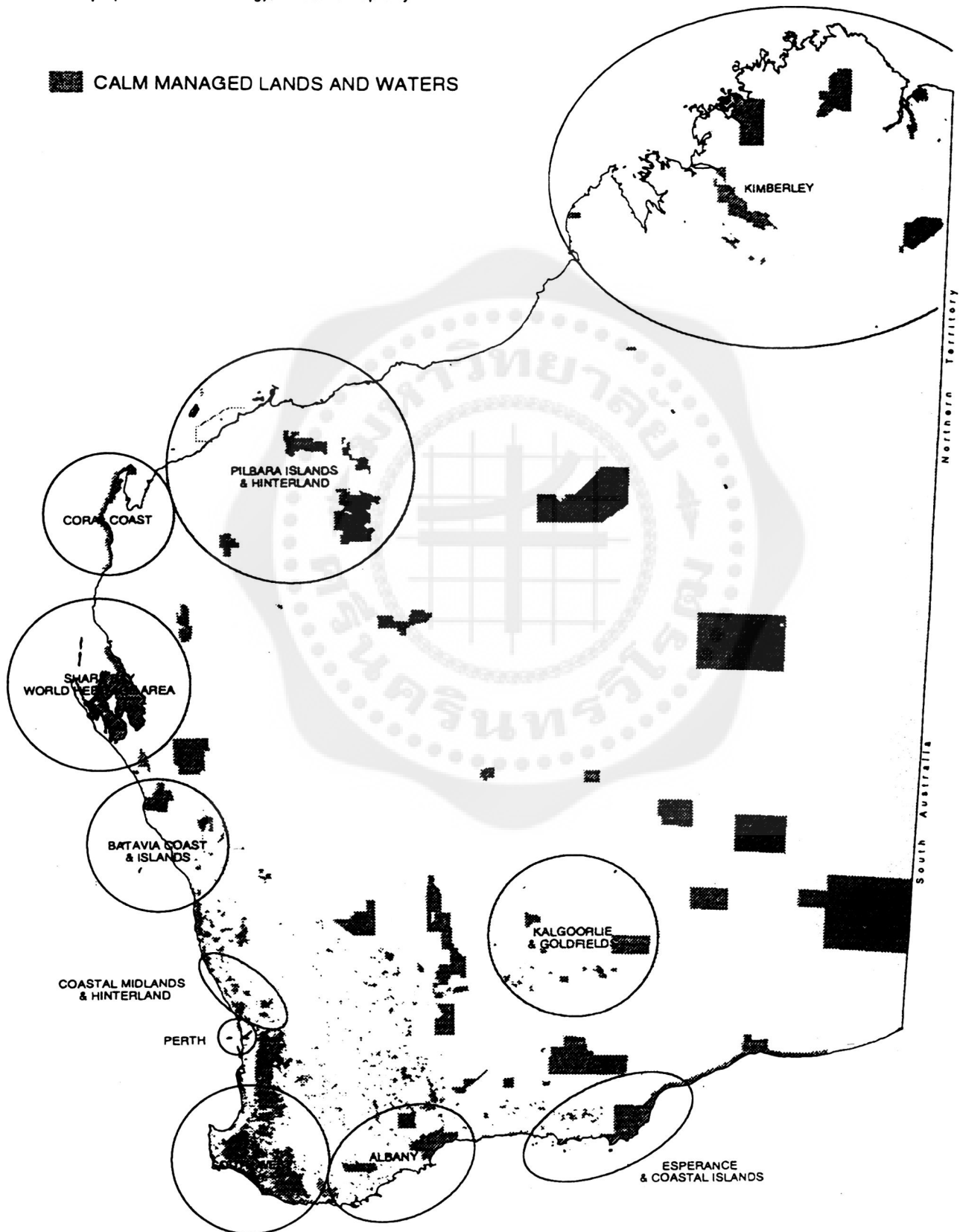
- develop an industry based on sustainable development
- protect the State's natural assets
- develop and use a Code of Practice to achieve sustainability
- return benefits to the natural environment.

**Figure 2 - Geographic Zones of Ecotourism Opportunity
in Western Australia**

Source: WATC & CALM (1995)

For purposes of draft strategy, indicative map only

■ CALM MANAGED LANDS AND WATERS



14

18

**Figure 3 - Descriptions of Zones of Ecotourism Opportunity
in Western Australia**

Source: WATC & CALM (1995)

Description of Zone	
Geographical area	The area of the zone.
Key features	The <u>endemic or unique features</u> (core features) that are the key assets for the zone.
Supporting attractions	The underlying attractions that help to distinguish the zone from other zones. There would be both particular and constant attractions.
Rationale	The reason the area should be declared a zone of opportunity.
Market position	The position the zone currently holds in the market place.
Traffic patterns	Access to the zone.
Basic Strategy	The type and style of development. The relationship/link between the fore activities and other activities.
Major development initiatives	Significant developments, if any, that are required for the zone to realise its potential.
Infrastructure needs and limitations	Infrastructure deficiencies that need to be overcome
Community/Aboriginal participation	Opportunities that exist for local community/Aboriginal involvement.
Management initiators	The organisation(s) with responsibility for initiating management programs.

2. Involve and benefit local communities

nature based tourism must -

- provide benefits to local and regional economies
- support and promote the affinity between Aboriginal people and the land
- identify and promote nature based opportunities for local communities including Aboriginal communities.

3. Improve knowledge

nature based tourism must -

- understand the link between natural and cultural heritage
- promote understanding of the environment
- provide quality information and interpretation of our natural environment.

4. Provide quality products and services

nature based tourism must -

- ensure visitor satisfaction
- identify appropriate product development opportunities
- develop awareness of the range of Western Australian quality nature based tourism products through selective marketing strategies
- provide training and development opportunities, including accreditation procedures for operators
- recognise and utilise national and international links.

5. Foster best practice principles

nature based tourism must -

- meet statutory responsibilities
- establish, identify and agree on appropriate roles for Government and industry bodies to optimise involvement in the industry
- establish structures that facilitate effective communication between industry and government
- reduce barriers to operator development and establishment
- integrate Government planning, administration and regulation.

Strategies

The fundamental strategies for developing ecotourism in WA are focused on awareness, sustainability and infrastructure. There is a need to develop awareness and appreciation for the values and benefits of nature based tourism.

Sustainable nature based tourism experiences should be developed that contribute positively to conserving and managing Western Australia's natural environment. This includes the development of standards, policies and practices that will sustain a nature based tourism industry. It also encompasses a system for ongoing funding and support for nature based tourism resources, including managing and protecting national parks and reserves and other conservation areas. A monitoring program also should be developed to assess sustainability of nature based tourism activities.

Adequate and appropriate tourism infrastructure on public and other lands will developed along with models of ecologically sustainable tourism developments in natural areas. Other strategies include those related to product development, promotion and marketing; quality products, information and services; integration and cooperation; investment; and training, assistance and accreditation.

A REGIONAL ECOTOURISM PLANNING MODEL

Many planning frameworks exist for either environmental protection or tourism development. Three years ago a new Regional Ecotourism Development Planning Model was devised which essentially seeks to foster environmental protection and tourism development through a sustainable resource and development planning framework (Figure 4, Dowling 1993). In essence the major thrust of the planning model is not towards the determination of land use sustainability or capability, carrying capacity, threshold analysis or pattern analysis. Instead it is best summarized as determining environmentally compatible tourism through the identification of significant features, critical areas and compatible activities.

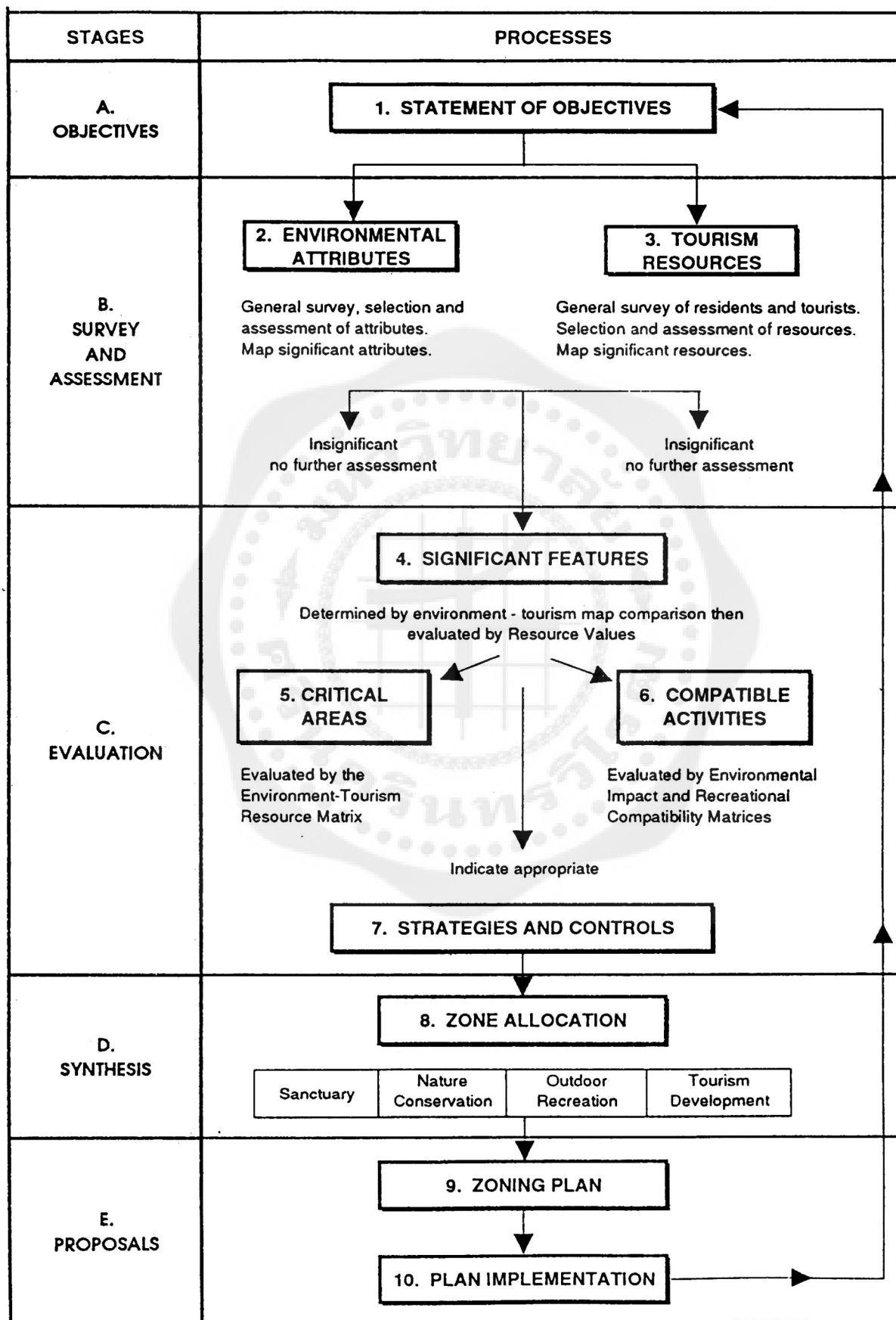
Significant features are either environmental attributes which are valued according to their level of diversity, uniqueness or representativeness, or tourism features valued for their resource value. Critical areas are those in which environmental and tourism features are in competition and possible conflict. Compatible activities are outdoor tourism recreational activities which are considered to be both environmentally and socially compatible.

The essential elements of the regional planning model include its grounding in the sustainable development approach, that is, being based on environmental protection, community wellbeing, tourist satisfaction and economic integration in order to achieve environment - tourism compatibility. Other essential elements include its being strategic and iterative, regionally based, incorporating land use zoning, and environmentally educative, that is, fostering the environmental ethic.

The Ecotourism Planning Model is a strategic planning approach to environment - tourism planning in five stages. It includes: Stage (A) - a statement of objectives, (B) survey and assessment, (C) evaluation, (D) synthesis, and (E) proposals. The five stages can be expanded into ten processes (Figure 2). The first

Figure 4 - The Regional Ecotourism Development Planning Model

Source: Dowling (1993)



stage consists of one process (1) - the statement of objectives. It begins with a background analysis of the environment - tourism relationship in order to produce the basic direction for the succeeding stages. The direction is determined by the objectives or planning goals which have emerged from the environment - tourism relationship review.

A number of planning zones are defined which are designed to protect conservation values while fostering tourism developments and activities. These zones are identified and described based on an approach where the land and water areas of a region are classified according to their need for protection and compatibility with tourism. The following general zones and their primary functions are proposed. These include:

- Sanctuary Zones - areas requiring special preservation;
- Nature Conservation Zones - areas sustaining a combination of protection and use but with emphasis on the former;
- Outdoor Recreation Zones - natural areas that can accommodate compatible outdoor recreation activities; and
- Tourism Development Zones - small areas of concentrated attractions.

The second stage consists of survey and assessment. This includes two processes (2) - the description and assessment of environmental attributes and (3) - the description and assessment of tourism resources. The third stage is one of evaluation of significant features (4), critical areas (5) and compatible activities (6) together with suggestions of appropriate strategies and controls (7). Following the evaluation the resultant information is amalgamated in the fourth stage of synthesis in which the planning zones are allocated (8). The final stage outlines the proposals and includes the preparation and presentation of the final zoning plan (9) as well as its implementation (10).

THE SOUTH WEST WA ECOTOURISM STRATEGY

Following the development of the Regional Ecotourism Development Planning Model it was trialled in The Gascoyne Region, WA between 1989 and 1992 (Dowling 1995). Today a number of regional ecotourism strategies have been developed throughout Australia. Through an ongoing evolutionary sequence an original three major elements have been expanded to five and incorporated in Ecotourism Strategies for the State of Queensland (ERM Mitchell McCotter 1995a) and the South West Region of Western Australia (ERM Mitchell McCotter 1995b). The elements of the ecotourism strategies comprise Environmental Protection, Product Development, Infrastructure Development, Marketing and Promotion and Industry Involvement (Figure 5).

Figure 5 - Key Elements of an Ecotourism Strategy

After ERM Mitchell McCotter (1995a+b)

ENVIRON- MENTAL PROTECTION	PRODUCT DEVELOPMENT	INFRA- STRUCTURE DEVELOPMENT	MARKETING AND PROMOTION	INDUSTRY INVOLVEMENT
Protection of natural assets	Identification of resource settings	Development of appropriate accommodation facilities	Identification of target markets	Assist tourism industry with knowledge of ecotourism niche
Conservation of resources	Identification of existing and potential product	Development of new and existing access points such as airports, railways and roads	Promotion of products to key market segments	Establish industry networks and information and develop a strong partnership between government and industry
Maintenance of cultural assets	Development of new products which are unique, authentic and manageable	Development of related facilities such as signage and visitor centres	Development of an efficient and effective delivery system	Develop and implement appropriate industry standards and accreditation
Protection of lifestyle	Identification and establishment of gateways, destination zones and touring circuits	Develop infrastructure which will also provide benefits to the host community	Position the region as a major area of ecotourism opportunities	Involvement in international promotion through known channels, including databases
Monitoring of impacts	Development of appropriate product packages	Consider alternative technologies in infrastructure development	Develop a coordinating body for marketing and promotion	Develop effective training programs for people involved in the ecotourism industry
Setting of limits to change	Establishment of links with other industries	Ensure infrastructure developments are of a high standard	Evaluate marketing and promotion efforts	Encourage industry to be involved in research

The South West (SW) Region of WA is an area geographically remote from the rest of the world. It is separated from them either by the continent interior of Australia or the vast Indian and Southern Oceans. The region extends from just one degree south of Perth (the State capital) to Albany on the southern shore of the State.

WA attracts more than five million visitors per year and the South West attracts 1.5 million making it WA's second most popular tourist region. In recent years it has experienced the most rapid tourism growth of any area in WA including Perth. The major attractions are its spectacular coastal scenery, old growth forests, wineries, 'laid-back' lifestyle, climate and beaches. With the majority of the attractions being based on the natural environment it is becoming increasingly important to prepare a Regional Tourism Strategy which will foster tourism development whilst maintaining natural and cultural values.

In recognition of the need to plan for the future growth of tourism the South West Development Commission (SWDC) in order to provide an integrated and balanced approach for tourism in the Region. In September 1994, ERM Mitchell M'Cotter were commissioned to prepare an overall tourism strategy for the region incorporating two main subcomponents. They are a regional ecotourism strategy and a regional tourism transport strategy. This paper reports on the outcomes of the South West Region Ecotourism Strategy. It was carried out in between September 1994 and May 1995 and was managed by a steering committee comprising representatives from state, regional and local governments as well as the tourism industry.

Guiding Principles

The South West Tourism Strategy planning process included examination of the demand and supply factors of tourism. This was carried out by collection of both primary and secondary data from a number of sources together with consultations with government bodies, community organisations and representatives of the tourism industry.

The principles developed for the South West Tourism Strategy are intended to support and reflect the broad vision for the tourism industry. They are:

- To develop a tourism industry which provides benefits to the local and regional economy;
- To develop high quality tourism product and services;
- To provide adequate infrastructure support for the development of the tourism industry;
- To develop a tourism industry which is economically sustainable and self sufficient; and
- To develop a tourism industry which is environmentally sustainable and has minimal adverse impacts on local communities.

The last principle is important because it ensures protection of the natural environment and that tourism developments are sensitive to the natural environment. It also promotes nature-based and ecotourism opportunities, involves local communities in decision-making and promotes socially sustainable developments. These principles and objectives form the underlying basis for the development of the SW Ecotourism Strategy.

The Product Base

Examination of the ecotourism product base in the region includes defining ecotourism, identifying issues related to environmental protection and conservation of nature-based tourism resources, the identification of appropriate nature-based tourism settings, products and experiences, infrastructure, co-ordination and marketing; and finally recommending appropriate product development, infrastructure, co-ordination and marketing and environmental protection.

The SW Ecotourism Strategy defines ecotourism as 'nature-based tourism that involves education and interpretation of the natural environment and is managed to be ecologically sustainable'. It comprises six key principles which are that it is nature-based, sustainable, educative, conservation-supporting, locally beneficial and generates tourist satisfaction. Nature-based tourism can include some of these principles but not necessarily all.

Settings

The SW Region has a number of diverse natural settings. These include the Swan Coastal Plain, Northern Jarrah Forest, Southern Jarrah Forest, and the Karri Forest Sub-region (Beard 1980). In terms of nature-based tourism those four settings provide the natural resource for nature-based tourism product areas, together with the addition of a fifth area based on the surrounding natural resources of the Cape Naturaliste to Cape Leeuwin Region, an upthrust granite basement block capped with limestone (Figure 6).

The nature-based tourism products of the region are all clearly different and include Bunbury - the region's gateway, Harvey/Collie - based on lakes, the Blackwood River, Southern Forests, and Cape to Cape - coastal.

The South West has developed a wide range of nature-based tourism product without actually defining it as nature-based tourism. Much of this product is located around the major natural icons of the Region. For example the karri trees in Pemberton and the coast line in the Cape to Cape Region.

The Bunbury and the Harvey/Collie Regions have limited existing nature-based tourism product. The Harvey/Collie Region has product which largely comprises of waterways, scenic drives and forests with little accommodation or other facilities. This is restricting the potential of the area because markets seeking camping ground accommodation are limited. There is a need for additional accommodation which is located in natural settings or provides access to these settings.

Figure 6 - Ecotourism Settings And Product Areas

After ERM Mitchell McCotter (1995b)

Natural Region	Coastal Plain	Northern Forest	Southern Forest	Karri Forest	Coastal Block
Resource Setting	Estuarine	Lakes	River	Forest	Coast
Product Area	Bunbury	Harvey Collie	Blackwood River Valley	Southern Forests	Cape to Cape
Product Attributes	• coast line • estuaries and rivers • estuarine and wetland communities	• coastal areas • jarrah forests • inland waterways • estuarine and wetland communities	• jarrah forests • rivers • wildflowers • valleys	• tingle forests • coastal areas • national parks • karri forests • rivers • dune systems • lakes	• rugged coastline • inland forests and woodlands • marine environment • rivers • caves

The Blackwood River Valley Region has a more dispersed nature-based tourism product. The key themes are the river and other waterways and associated activities and jarrah forests. The existing product tends to be concentrated around Bridgetown, Nannup and the Blackwood River.

The Southern Forests Region has a considerable amount of nature-based tourism product, largely focussed on the forests, rivers and pools and tourism drives. Much of this product and the accommodation and other facilities which serve it is focussed around Pemberton. However, there is an opportunity to expand the ecotourism product geographically and increase the product in Walpole, Northcliffe and Manjimup.

The Cape to Cape Region has a good range of nature-based product which is evenly spread throughout the area. It also has a good range of accommodation experiences which support existing attractions and activities. The key issue for the Cape to Cape Region is management of the existing tourism product to ensure that the natural environment can be sustained. There is also a requirement to co-ordinate existing products in innovative packages which provide for a range of tourism experiences.

Infrastructure

The Region is well served with good roads, an airport, adequate signs and information facilities. Bunbury serves as the northern gateway to the region and is the regions main service centre. The Collie/Harvey area has developed Wellington Dam as a major attraction and it is well served with facilities.

The Blackwood River area has a major high quality regional accommodation facility, Karri Valley Resort which caters for international visitors. The Karri Forest area contains a number of 'wilderness areas' and national parks where access is limited. However one of the attractions of this area is the unsealed roads and 'adventure' element in discovering scenic locations. The Cape Region is well served with roads, signs, an information bureau and accommodation.

Tourism Demand

Australia attracted three million international visitors in 1994 of which about 8% visited WA. However, in WA it is the domestic market which is the largest with over five million visitors per annum. Over these 12% visit the South West Region making it the second most visited region in WA after the capital city of Perth. In 1994 tourism in the SW generated \$170 million making it the fifth largest industry after mining, retail trade, agricultural production and manufacturing.

Tourism has grown steadily at a rate of 3% per annum and in 1994 there were 650 000 visitors. Summer is the busiest period for tourism and during January 1993, 100 000 tourists were accommodated in the South West Region. Easter is another popular period for tourism, and although winter is the quietest season, during August 1993 some 34 000 people visited the Region.

There has been a strong growth in the number of international and interstate tourists visiting Western Australia. In 1993, 370 7600 international tourists visited Western Australia, an increase of 19.4% since 1992 and 28.1% since 1991. The majority of international tourists to the state are from Asia, followed by the United Kingdom/Ireland and Europe. The largest growth area has been in Indonesian tourists, which increased by 44.8% between 1992 and 1993 (WATC 1994).

The main purpose of visits to the Region are for pleasure or holiday and visiting friends and relatives. The average length of stay is four days. The main attractions are the natural and cultural features especially the tall timber forests, long sandy beaches, spectacular coastlines, wineries, arts and crafts, and caves. Popular activities include fishing, picnics, pleasure shopping, water activities, and visiting wineries, art and craft galleries, museums and historical sites.

The main form of accommodation used by visitors is hotel/motel/holiday house (29%), friends/relatives (26%) and caravan parks (12%). The majority of visitors travel to the region by motor vehicle, rental vehicles or bus/coach.

To gain insight into the opinions and attitudes of tourist in the Region a number of surveys were carried out both inside and outside the region. Altogether a total

of 394 people were interviewed. Popular venues visited are beaches (57%), art and craft outlets (54%), national parks (48%), wineries (42%) and forests (40%). The most popular activities were sightseeing (80%), bushwalking (48%), swimming/surfing (42%) and camping (23%).

One of the most interesting findings was the level of demand for an international resort in the Region. It seems that although visitors go to the Region to enjoy and explore the natural surroundings they do not perceive that a resort of this nature would ruin or impact on the environmental beauty of it. There is obviously considerable demand for high-quality accommodation which is perceived to be lacking in the area at the moment. Other popular suggestions were for guided safaris (32%) and nature tours (29%).

Issues

A number of issues emerged during the development of the South West Tourism Strategy which primarily focused on infrastructure development and ecotourism. This review will describe the ecotourism component of the overall Tourism Strategy only. Ecotourism issues included scoping, data collection, consultation, strategy development and review, and the response to issues.

Scoping

The preparation of any strategy involves careful scoping and definition of a project prior to its commencement. This is usually achieved in the project brief when it is issued to consultants and then further defined within the consultants proposal. The scope of work for the overall Strategy was very broad. The component devoted to ecotourism was, by comparison more defined. This assisted in enabling the data gathering and consultation for this part of the Strategy to be more focused and comprehensive.

One of the difficulties, however, was that the Strategy was being prepared for a range of agencies with widely varying interests and needs. The tourism industry was looking for certain outcomes, government was looking for certain outcomes and these were again different from the outcomes being sought by the local community. Consequently the scoping of the Strategy was very important as it provided a mechanism for meeting the needs of all agencies. The Strategy did attempt to account for all these needs early in the study process, however it is not possible to universally meet all needs.

The way in which the scoping process was further defined was through two separate events; a Vision workshop and a one day seminar to determine objectives for the Strategy. The Vision workshop was held in the first few weeks of the study and was used to identify the broad requirements for the study. This resulted in the preparation of the guiding principles identified earlier. The second part of the scoping exercise involved a full one day seminar to which community representatives, State and Local government representatives and representatives of the tourism industry were invited. The purpose of the seminar was to review the objectives of the study in considerable detail and to

provide an overview of the data gathered to that stage. The seminar attempted to seek agreement from all parties present about the future direction and focus of the study. Again the presence of diversified interest groups and agencies made this process a difficult one.

Data Collection

The collection of data for tourism strategies is invariably fraught with difficulty. The normal response is to collect everything of relevance that is available at the time. The problem is that much of the required information is not available in published form, is outdated or is not useful for the purpose of the study. Consequently the use of 'facts and figures' such as how many tourists visited the Region and the amount of money spent by those tourists has limited value. Quantitative information gathered during the study about why tourists choose to visit an area and the level of satisfaction with their visit was far more useful and informative. In summary, an over-emphasis on statistics can distort the tourism picture and lead to inadequate recommendations. There is a need to balance the statistical information with qualitative and recent research about the specific needs of ecotourists.

Consultation

One of the major components identified as a requirement in the study brief and during the scoping phase of the study was the need for community consultation. Often tourism strategies are prepared with a development oriented focus and the needs of the community are excluded. The Steering committee identified in the early stages of the study that the needs of the community and the protection of the natural environment were of primary importance. However, it is important not to lose sight of the primary objective of any ecotourism strategy and that is to produce a strategy which will promote the development of ecotourism in an area. In order for this to occur there needs to be a considerable amount of support and ownership by tourism operators and tourism organisations.

The Strategy prepared for the Region involved extensive consultation with the community through workshops and surveys. However, consultation specifically targeted at the tourism industry was limited to a mail out questionnaire and individual operator participation in community workshops. In retrospect there was a greater need for more extensive consultation with industry, while at the same time maintaining general community involvement and ownership of the Strategy.

An important part of the strategy was extensive consultation with residents. Community workshops were held for ten of the twelve Shires of the study area. A draft working paper was prepared for each of the Shires of the South West and were distributed to all participants at each workshop. Each paper outlined the tourism opportunities, constraints and issues for the Shires. Workshop participants were asked to discuss the issues raised in the workshops. These issues related to key tourist products, tourism co-ordination and promotion, nature-based tourism, transport infrastructure, tourist information and tourist

accommodation. Participants were also asked to identify the opportunities and constraints for tourism development in the South West.

Local communities generally accept the tourism industry. However, there is concern about the impacts of tourism on their natural, economic and social environments. Major concerns relate to changing land use patterns and planning, and land use conflicts between tourism and other uses. There is also some concern about the lack of awareness by communities of the benefits of ecotourism and the needs of tourists.

Strategy Development and Review

One of the other issues which was identified during the preparation of the Strategy was the need for early discussion and review of ideas and drafts of the report. There is a need to generate a series of working papers which can be easily read by the community, industry and government representatives and discussed on a regular basis. There is also a need to limit the amount of unnecessary information in these reports and focus on the key issues and recommendations. The preparation of the Strategy has shown that the majority of viewers are interested in the recommendation and implementation sections of a report. They are not interested in being told what product they have in great detail as most are aware of the opportunities and constraints of their product.

Finally there is a need for the study process to be a flexible one. As the study develops and the consultation process yields new ideas it must be possible to change the scope of work. This is often difficult due to the nature of the contractual arrangements between government organisations and consultants. This suggestion does not necessarily imply that flexibility equates to additional funding. However, it does mean that if a portion of the work is identified as being unnecessary or irrelevant it should be able to be excluded from the report or not researched at all. The unused funds can be used to focus on an issue which has been found to be of considerable importance.

Response to Issues

Reflecting on the development of the South West Ecotourism Strategy it is possible to make some comments about its success and identify a number of factors which may be useful in improving the process of developing an ecotourism strategy in any region. Firstly, the Strategy lays the foundation for the development of a very sophisticated ecotourism industry which takes into account the needs of the local community and an awareness of the impacts of tourism on the natural environment. There is a clear objective in the Strategy that the development of ecotourism must be accompanied by conservation and protection of the local community and environment.

Factors which could improve the ecotourism planning process include the following:

- careful scoping and planning of studies;

- selective and regular consultation with all interest groups but particularly the tourism industry which must take ownership of any Strategy;
- education of operators about the benefits and requirements of developing an ecotourism Strategy;
- using short, concise interim reports to present ideas to stakeholders and seek agreement on study directions;
- ensuring that the study brief or commission is flexible enough to incorporate change to the study scope;
- careful use of statistics and limitation of data collection to relevant, recent information;
- use of costed and prioritised recommendations; and
- clear identification of responsibilities for implementation and agreement on implementation mechanisms prior to finalising the Strategy.

Recommendations

Following the analysis and synthesis of the data a number of recommendations were made as part of the overall South West Region Ecotourism Strategy. They included recommendation on environmental protection, product development, and marketing and promotion.

The underlying theme of ecotourism is the maintenance and enhancement of the Region's environmental, social and economic assets. Maintenance of lifestyle and protection of the Region's natural and cultural attributes are fundamental to and underpin any form of development in the South West. The unique natural environment and lifestyle of the South West attracts visitors and these need to be protected for the benefit of both the local communities as well as the visitors.

The development of tourism in natural settings brings with it an inherent responsibility to ensure that the resource is not degraded. One form of ecotourism development policy in natural areas is to contain facilities and activities to specified areas rather than allowing dispersion of development and/or activities throughout a region. This approach was adopted in the Strategy and ensures products are located where they do not pre-empt areas more suitable for other types of development or environmental preservation. The tourists either remain within the cluster or take day tours to attractions outside the area.

Clustering is superior to dispersal in terms of benefits to visitors and reduction of unacceptable impacts on the host community and environment. Clustering can

leave much of the environment (between clusters or nodes) in a relatively natural state and thus, by implication, enjoyable, renewable and cheap to maintain. The alternative, that of continuous strip or dispersed development, is usually regarded as unsatisfactory for both environmental and practical reasons. It is for these reasons that the hierarchical system of product zones has been developed.

Currently, environmental protection is afforded by a number of environmental protection acts and management plans. However, the approach to environmental protection is often not flexible enough to take ecotourism into consideration. It is possible to provide for appropriate development within natural settings as existing product in the South West clearly shows. However, there is a need to ensure that this is monitored and controlled to maintain the resources which form the basis of ecotourism products.

Environmental Protection

A number of environmental protection recommendations have been made as part of the ecotourism strategy. They include the development of policies which provide guidance to developers seeking to provide specific facilities chalets, resorts, recreational facilities and tours. Specific elements include identification of the approvals required, preferred building developments, preferred water and servicing requirements, landscape qualities which need to be retained and other issues. Developers are provided with guidance as to appropriate tourism developments prior to construction. It is also recommended that a number of educational brochures be made up providing details about key matters such as litter disposal, walking in areas without paths, off road driving and protection of flora and fauna.

It is recommended that the Department of CALM introduce monitoring programs in areas where new products are developed to determine tourism impacts. It is also suggested that Nodal development be promoted by pre-zoning appropriate sites and refusing approvals for inappropriate sites. Finally it is suggested that user pays charges be introduced for entry into national parks to subsidise provision of new and upgraded facilities such as picnic areas, BBQ's, walk trails and toilets in these parks.

Product Development

The underlying principle of the strategy in relation to product development is to develop high quality tourism products and services. However, this goal is hampered in the Region by a lack of identifiable product, gaps in product provision, inappropriate packaging of products and the uneven development of product throughout the South West. Recommendations to achieve appropriate product development focus on the development of a hierarchical system of product zones (Figure 7). These include Primary and Secondary Product Zones, Transit Corridors, and Scenic and Touring Zones. Primary Product Zones contain a significant concentration and diversity of product and should

accommodate a range of moderate to large scale tourism developments. They are concentrated around existing tourism nodes.

There are five Primary Product Zones in the Region. They have developed in a hierarchical manner with the Cape Region being the most developed of all the zones. The Southern Forests zone contains nodes of intensive development around Pemberton and Manjimup and to a lesser extent Northcliffe and Walpole. However it has yet to develop a broad range of attractions and accommodation throughout the whole area which can cater for a range of tourism markets. The Blackwood River Valley zone has developed to a lesser extent than either the Capes or Southern Forests zones but it has a good range of product potential spread along the Blackwood River and adjoining major centres.

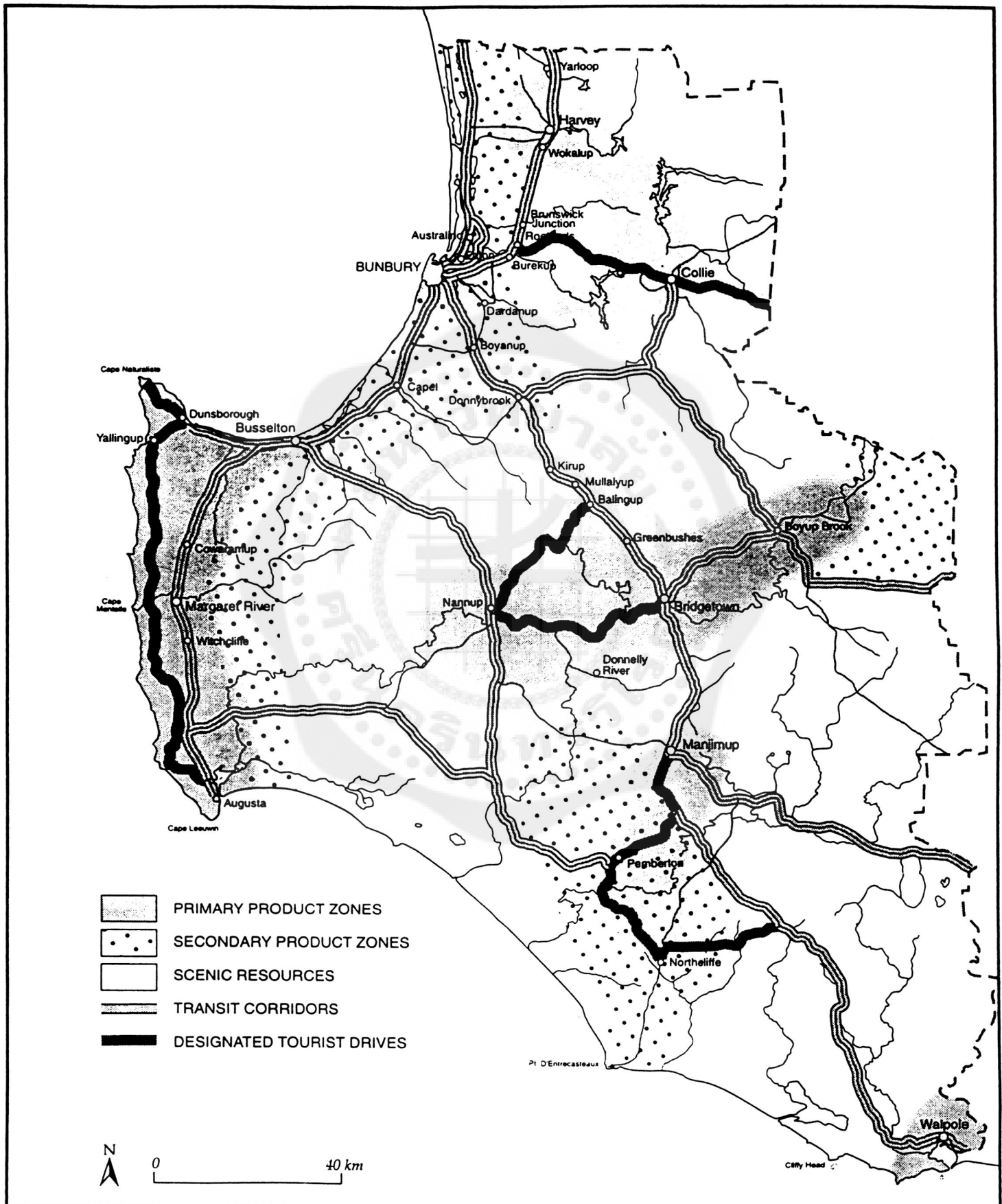
Bunbury is the main administrative centre of the Region. Consequently tourism is one of several foci. It has an important role in the provision of tourist information about the Region and as a stopping point for visitors travelling to the South West. The Collie/Harvey zone is still in its infancy in tourism terms. It has isolated attractions, but is beginning to develop strong themes and provide the necessary infrastructure. It will be able to draw on the tourism markets as they travel throughout the Region and provide different tourism experiences than those provided in the lower South West.

Areas outside than main sub-regions also contain scenic resources and some tourism product. They are called Secondary Product Zones. They contain less dense tourism product than Primary Product Zones. They contain isolated attractions or small groupings of attractions and accommodation. These areas are the ideal settings for nature-based or rural tourism activities. Transit Corridors enhance scenic attributes by being the major access arteries. Touring Zones incorporate rural, forest and other natural settings which could be developed with basic tourist facilities such as campsites, farmstays, guesthouses and special interest facilities. They provide opportunities for visitors to undertake low key rural and nature-based activities.

Other key recommendations for product development includes the concentration of large and moderate scale tourism developments in Primary Product areas through appropriate land use planning and development control, as well as small scale, low key, ecotourism activities in Secondary Zones and Scenic and Touring Zones. Other recommendations focus on the need for statutory protection of scenic and natural resource areas to provide for environmental sustainability, the maximisation of scenic value and accessibility of areas in transport corridors, and filling gaps in product provision such as accommodation facilities for a variety of budgets, farmstay and other rural attractions, product packaging; and the development of adventure and ecotourism attractions.

**Figure 7 - Proposed Ecotourism Product Zones in the South West
Region of Western Australia**

After ERM Mitchell McCotter (1995b)



Marketing and Promotion

The main principle espoused by the plan is to develop an ecotourism industry which provides sustainable economic, social and environmental benefits to the local and regional economy. A review of potential markets identified a number of segments which can be targeted for promotion and marketing activities. These include ecotourists, backpackers, and other special interest tourism markets particularly those looking for a rural and cultural experience. The ecotourists are looking for natural experiences, a variety of activities, attractive scenery, recreational activities in natural settings, and include a broad range of age groups and budgets. The types of accommodation and service requirements they are seeking includes budget, moderate and high quality accommodation in natural settings, information and education, and natural attractions.

Future marketing of the SW Region will be aimed at increasing its market share of international and interstate visitors and maintaining its share of the intrastate market. To achieve its marketing activities the strategy implementation must strive to emphasise the natural features and the nature-based concept in marketing activities, encourage intrastate visitors to stay longer and visit the Region in the off-peak season, increase visitor spending in the Region by increasing visitor awareness of activities and facilities, develop a regional theme with identifiable logo and strong sub-regional marketing themes for each product area, promote a broader range of holiday experiences, and develop a range of packages which include accommodation elements, attractions, transport and other services.

Promotion of the region will be by the regional industry body to develop a regional marketing plan in liaison with the Western Australian Tourism Commission and other interested parties. Sub-regions in association with tourist bureaux will prepare marketing plans which complement the regional marketing plan.

Summary

The Strategy has laid the basis for developing a sustainable ecotourism industry in the South West of Western Australia. It has identified objectives, issues and recommendations for the development of ecotourism in regard to environmental protection, product development and marketing and promotion. The ecotourism industry in the South West is an important part of the local economy and contributes to a unique lifestyle for people in the Region. It is important that the economic, social and environmental characteristics of the Region be sustained and enhanced by a self-sufficient, economically viable and environmentally sustainable tourism industry.

The Strategy objectives will only be achieved through effective implementation of the stated recommendations. To this end there is a need for a co-ordinated government, community and industry approach to the development and management of tourism. These groups must take up the challenge of developing an integrated and sustainable ecotourism industry in the South West Region.

CONCLUSION

Ecotourism can provide the opportunity to present a region's natural areas, promoting an identity that is unique. It can create new and exciting tourism experiences, promote excellence in tourism, present and protect natural areas, benefit local communities and encourage commercially successful and environmentally sound tourism operations.

The vision for regional ecotourism development is for a vibrant and ecologically, commercially and socially sustainable ecotourism industry that leads the way in tourism development (ERM Mitchell McCotter 1995b). Ecotourism should be an exemplar for other forms of environmentally responsible tourism, promoting best practice in planning, design, management and operation. The vision for regional ecotourism development planning is to identify, encourage and promote a range of unique tourist and recreational experiences which can be sustained environmentally, socially and economically to meet the needs of visitors and the local community. This vision reflects the desire to have managed growth which maintains the lifestyle and environment for people who live in the region. The guiding principles developed for the practical ecotourism strategies should also reflect the overall vision for regional tourism development. Each principle is supported by a number of regional objectives. They are:

- 1. To develop a tourism industry which is environmentally sustainable and has minimal negative impacts on local communities.**

Regional ecotourism development planning should protect the natural environment, ensure tourism developments are sensitive to the natural environment, and promote nature-based and ecotourism opportunities. In addition it should involve local communities in tourism planning and promote developments which take into account the needs of local communities.

- 2. To promote ecotourism as an environmental exemplar for other forms of tourism.**

The use of environmentally responsible planning, design, management and operation practices is occurring increasingly throughout the tourism industry. Ecotourism is part of the wider tourism industry and has the potential to lead the way in use of best environmentally responsible tourism.

- 3. To develop a tourism industry which provides benefits to the local and regional economy.**

The objective of this principle is to identify new markets and products and encourage local operators to provide high quality products and services which attract tourists who will provide the greatest economic benefits to a region.

4. To develop high quality tourism product and services.

This can be achieved by identifying marketing strategies which maximise visitor awareness of a region and by developing quality control and accreditation procedures to encourage a high quality tourism industry.

5. To provide adequate infrastructure support for the development of the tourism industry.

Public infrastructure and transport service requirements should be identified together with strategic planning requirements for government authorities and major investment opportunities.

6. To develop a tourism industry which is economically sustainable and self-sufficient.

Structures which maximise the involvement of tourist operators in the management and development of the industry should be identified together with the roles of government agencies in the development of the tourism industry.

Finally ecotourism development at the regional level must be developed within the context of sustainable local, national and even international tourism development. At both the regional and national levels, development policies, plans and programmes, laws and regulations, and marketing, all influence tourism development. The three main principles of sustainable development which can also be applied to regional ecotourism development planning are focus on ecological, social and economic issues.

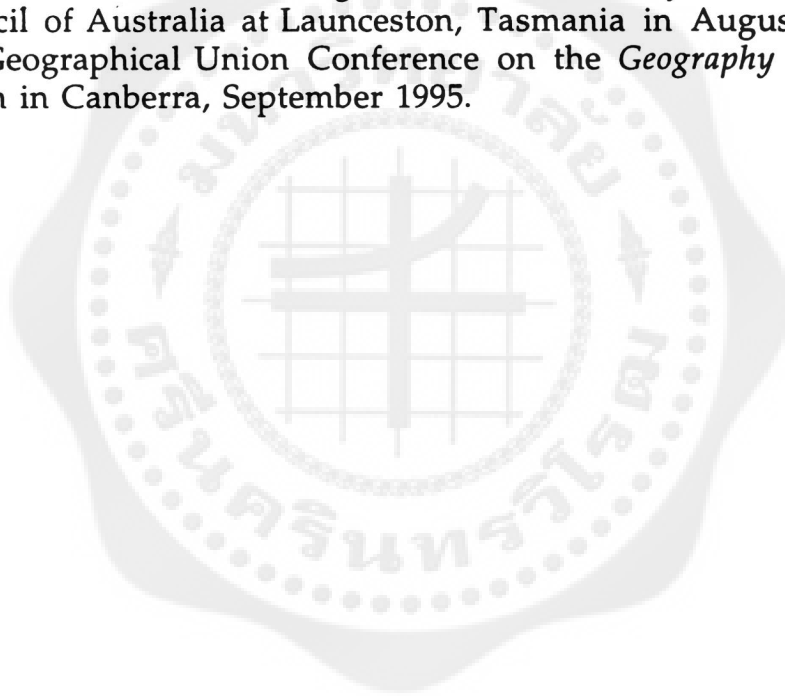
Regional development of ecotourism comprises far more than the above. There have been numerous books, courses, reports, workshops, strategies and other events which have occurred in the past, are happening now, or are planned for the future. I predict that the face of the future of tourism generally will be shaped by alternative forms of tourism especially nature-based tourism and ecotourism.

The key to capitalising on the potential benefits offered through regional ecotourism development is to maximise the opportunities and minimise the adverse impacts through environmentally sustainable development planning as outlined in the Ecotourism Development Planning Framework (Dowling 1993). If this is carried out then a sound base will have been established for regional ecotourism to develop and flourish in harmony with the natural and cultural environments on which it depends.

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Sustainable tourism for remote atolls in the Pacific

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Key words: sustainable tourism, atolls, appropriate technologies, visitor attractions, traditional marine tenure system, code of ethics

SUMMARY

Coral atolls, as visitor destinations, have received little attention in the literature of tourism on mid-oceanic islands. However, the current trend of nature-based tourism, which involves travelling to relatively remote and undisturbed places, makes the atolls a desirable destination. This paper explores ways of how appropriate tourism can be introduced to atoll society within the context of traditional resource uses and the application of intermediate technologies. With the acceptance of a code of ethics for tourist behaviour and technologies aimed at reducing dependency of foreign imports, atoll tourism could become a viable economic alternative to the continued over-exploitation of marine resources.

INTRODUCTION

Conflict is not a new phenomenon in the Pacific. Since the 16th century, European nations have used the islands as pawns in the game of international rivalry over political power, territorial control, trade and religious influence. Today, some 400 years later, conventional tourism is still seen by many as 'neo-colonialism', because it largely depends on indigenous resources and labour for commercial profits. With political independence, however, some island States are now in the position of exerting greater control over tourist developments and foreign practices perceived to be harmful to the islanders' sociocultural system. In addition, the 1980s and early 1990s have seen a dramatic change in island travellers, more visitors are becoming aware of the impacts they cause, and will join the growing movement of what is popularly referred to as

'responsible', 'environmentally friendly', or community-based tourism. Enough knowledge on the negative effects of tourism is now available that the time has come for both the public and private sectors to find remedies for that situation. Alternative forms of tourism can serve as a new direction for more harmony, but much depends on the degree to which this industry and the consumer are willing to change. As Louis J. D'Amore so aptly declared at the first global tourism conference:

... tourism has the promise of becoming the world's first 'Peace Industry'; an industry which can promote and support the belief that every traveller is potentially an 'Ambassador of Peace' (D'Amore, 1988: p. 14).

The pursuit of peace by whatever means is not confrontational or adversarial, but essentially cooperative. On Wotho Atoll in the Marshall Islands,

a scenario of co-operation played itself out recently between the government and the atoll residents. A project was proposed in which the islanders were asked to give up three islets of Wotho for the purpose of conservation (no harvest of any marine resources). In return, the community would receive capital and technical assistance for establishing a small-scale ecotourism venture: two or three guest cottages with associated support facilities (Valentine, 1993). Tourism also provides the perfect opportunity to improve the relationship between visitors and residents and a host of other stakeholders.

This paper makes an attempt to provide a framework within which a symbiosis among stakeholders may be achieved. For very small and remote coral atolls, the stakeholders are: the tradition-bound islanders (chiefs, guest-house operators, tour guides, local artists, etc.), the independent adventure tourist, and the non-governmental organizations (NGOs) connected with intermediate technology projects. Government agencies are involved by necessity, but will not be considered as active players at this stage of introducing tourism to coral islands. This is not a study of planning, management, cost-benefit or conflict resolution in tourism. It does, however, outline a basis on which to build a community-based tourist enterprise with minimal dependence on outside developers. Three fundamental issues will be addressed:

- (1) What type of sustainable tourism is most appropriate to the atoll environment and their local communities?
- (2) How can traditional resource management practices be incorporated into a service industry and the visitor experience?
- (3) What type of technology might be required to minimize costs and environmental impacts?

THE ATOLL ENVIRONMENT

The classic mid-oceanic atoll may be defined as an oval-shaped coral reef formation studded with islets and sand cays that form the outline for a distinct lagoon. Of this form, some 300 well-developed atolls have been observed in the Pacific. The majority, however, depart rather freely from

this ideal circular outline because of variable hydrological and ecological conditions. 'True atolls' have experienced complete subsidence of the volcanic core; 'almost atolls' reveal some volcanic remnants; while 'raised atolls' or 'table reefs' have been uplifted by tectonic forces (Wiens, 1962). Throughout the Pacific, these low-lying coral islands are situated in a zone roughly 20° north and south of the equator. Culturally, the concentrations of atolls fall within Micronesia and Polynesia, whereas single isolates (Polynesian Outliers) are randomly separated from each other by thousands of miles of ocean space (Figure 1). The atolls of Micronesia, for instance, are scattered over 3 million square miles, larger than the continental United States, and the combined land area is less than that of Rhode Island.

Atolls are diverse, self-sustaining communities of marine and terrestrial organisms. The equilibrium of these biological communities is balanced precariously as a result of disturbances by seasonal droughts, hurricanes, tidal waves, and even sea-level changes over the long-term (Rapaport, 1990). Most coral islands support only small human populations, ranging in number from a few hundred to less than 25. Fresh water, good soil and lack of space are the most limiting requirements for human settlements. Because of the small area of dry land, human existence does not have the safety margin available on larger high islands. Atoll production systems are restricted to small-scale subsistence agriculture, fisheries, mariculture, cottage industries and tourism. Considerable effort is required by the islanders to exploit the soil which is phosphate-rich, porous and only available to shallow-rooted plants. Horticulture is generally limited to pit-taro and coconut and breadfruit groves in the central part of the islets. Both reef and land resources are coming increasingly under pressure by new exploitation technologies, population growth, erosion, overfishing and guano mining. Community-based tourism is being investigated on some atolls as an option to reduce economic subsidies and out-migration.

The question may be asked: 'under these circumstances, can atolls support even a modest visitor population?' Obviously, much depends on the type of atolls, their size, relative isolation, resource base and infrastructure. Coral islands experience a natural condition of scarcity, and

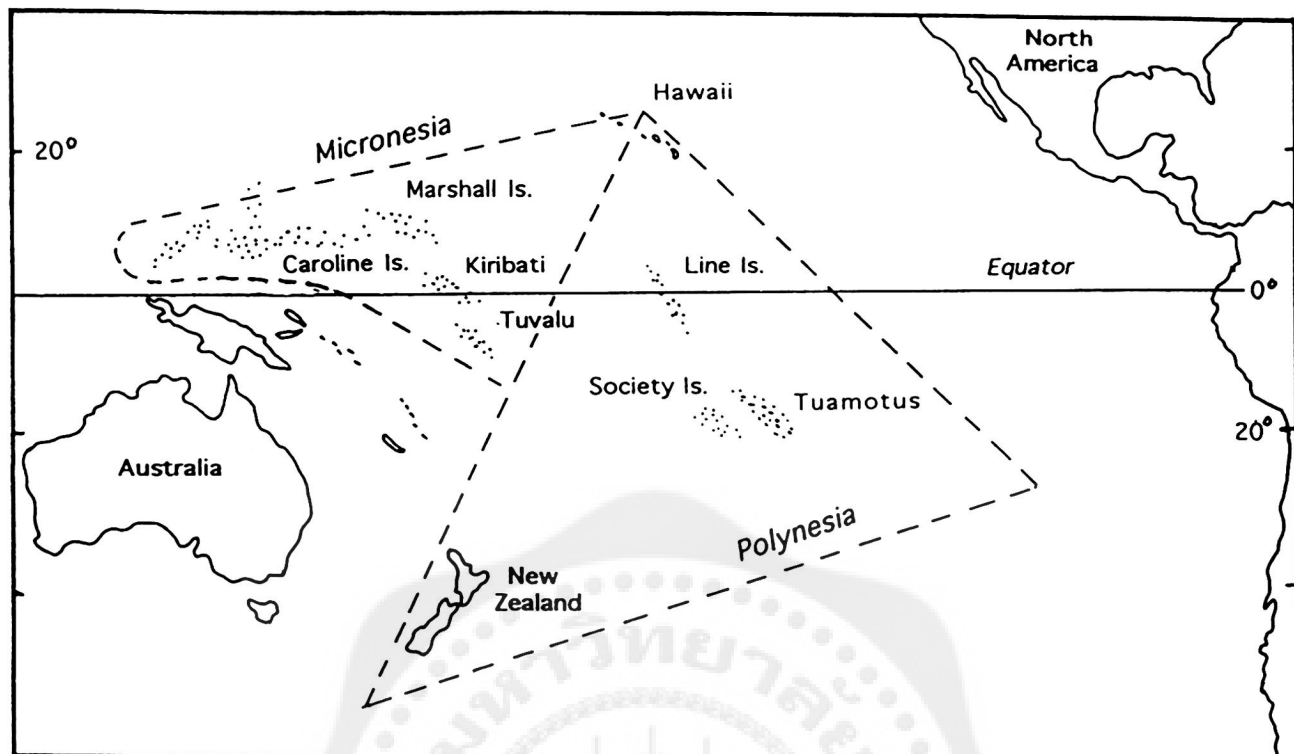


Figure 1 General distribution of atolls in the Pacific

consequently, local resources may be subject to overexploitation even without tourism. At the same time, there are still many uninhabited atolls, some of which could support periodic visitors. On populated atolls, tourism developments must, of necessity, focus on small-scale, environmental harmony, optimization of space and cultural integrity. By the same token, the isolation, circumscribed space and other environmental factors have resulted in specialized flora and fauna, and even human communities. The more remote the atolls, the more distinct are their biota and abundance of endemic species. In the Galapagos and the Seychelles, the tourist industry is largely based on the extensive inventory of endemic species. For other places, a small number of visitors may provide support to local cottage industries, pearl culture or marine protected areas.

IDENTIFYING ATOLL TOURISM

What type of tourism appears to be most appropriate for the atolls of Micronesia and Polynesia, both environmentally and socio-economically? In this section, an attempt will be

made to characterize the salient features that must be recognized when introducing tourism to the atolls of Oceania. This concern may be very timely, because the government of the Marshall Islands has recently decided that only small-scale ecotourism ventures will be permitted on the outer atolls (Valentine, 1993). On these insular territories, where space is at a premium, small enterprises are spatially and aesthetically less intrusive and less demanding on scarce resources. As such, so-called 'low-impact' tourism, which by definition is supply-driven, as opposed to mass tourism which is generally demand-driven, would be most suitable (Lillywhite and Lillywhite, 1991). Supply-driven tourism, therefore, puts control and management into the hands of the community (village), not the travel agency or some government agency. The low-impact tourism infrastructure is indigenous (guest-houses or lodges); that is, it depends on local resources and support of the village economy. This form of tourism fills a specific niche market and may be best implemented by NGOs in co-operation with village leadership (Brandon, 1993).

Visiting primitive and remote atolls could be classified as 'adventure' or 'explorer' tourism

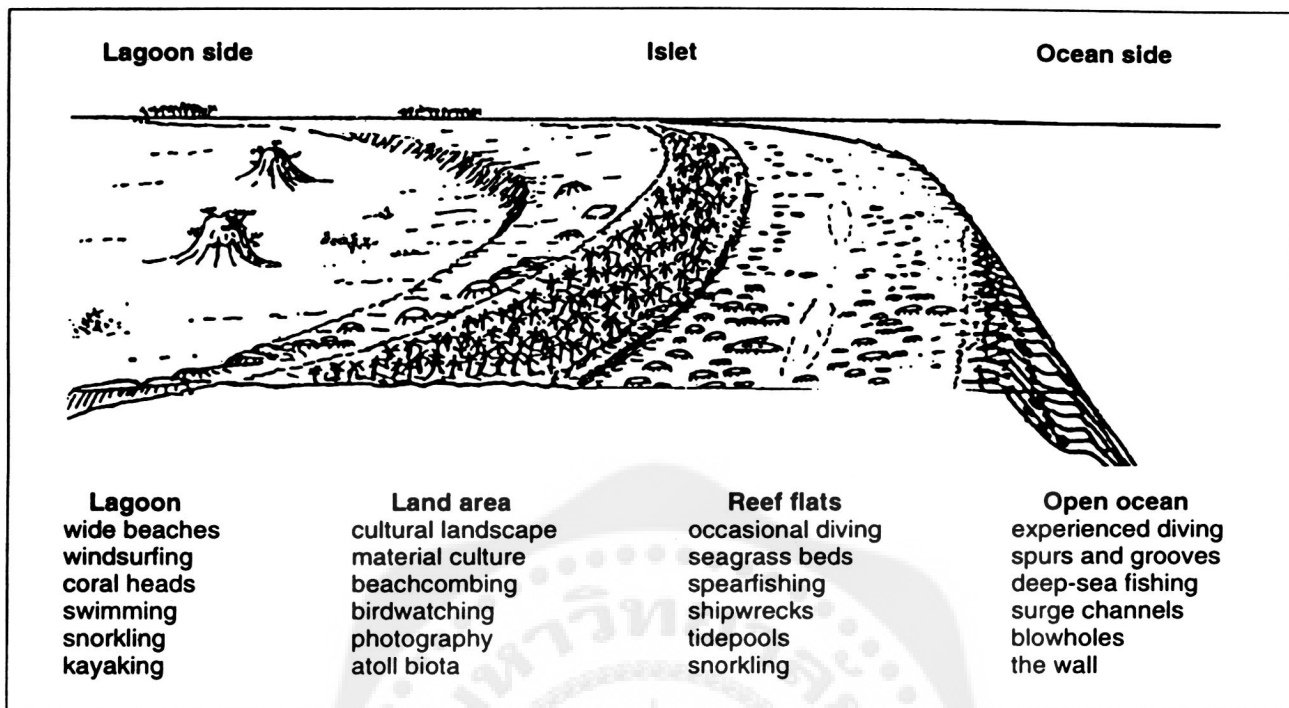


Figure 2 Features of visitor attractions

where much personal effort is required, and high standards are not expected. The participants, for the most part, avoid conventional sites and seek out untouched places and spontaneous contact with natives. Lindberg (1991: p. 3) calls them 'dedicated nature tourists' – people who take trips specifically to see uncontaminated natural areas and who want to understand local, natural and cultural history.

In addition to achieving specific goals that involve intimate contact with nature, the adventure travel experience usually involves individuals or small groups of visitors. Small numbers of tourists on unconventional trips are likely to encounter an authentic experience, while conventional tourists appear to be caught in a staged 'tourist space'. In Hawaii, for example, the tourist experience is no longer genuine; many attractions have been modified to make them more suitable to the standards of visitors' perceptions and morality (Whittles, 1989). More specifically, the Kodak-sponsored hula show in Waikiki presents a programme of 'staged authenticity' in which a contrived culture employs professional native artists. The result is that the interpretative story of the tourist experience bears little resemblance to the realities of the indigenous cultures. On small islands of the South Pacific, it

is unlikely that a couple of tourists will encounter 'staging' of attractions to any significant degree (Sofield, 1991). When cultural expressions are displayed or performed at the village level, they are rooted in simplicity, and their authenticity provides tourists with a profound leisure experience.

Atolls provide the ultimate experience in marine recreation based on the richest marine habitats on earth, generating a high aesthetic appeal to visitors (Figure 2). Experienced divers will be challenged by powerful waves in the surf zone to view well-developed reef features such as surge channels, blowholes, tunnels, and the conspicuous groove and spur system. Behind the breakwaters of the algal ridge, the shallow intertidal zone presents snorkelers and collectors with an astonishing array of coral reef organisms. Visitors seeking 'sun and sand' will be drawn to the calm waters of the lagoon and the extensive beach systems composed almost entirely of orange-coloured foraminiferous sand. The beaches on the seaward side are typically narrow and made up of wave-deposited debris, gravel and boulders, and are therefore less attractive to beach users. Away from human habitats, some coral islands have attracted seals and turtles and thousands of boobies, terns, petrels and frigate bird colonies (Muir, 1993). Through community-organized

excursions with local guides, these natural attractions could be made available to wildlife enthusiasts and nature photographers. These are just a few examples of what tourists can expect to find when exploring the nature of coral atolls. Being located at the epicentre of marine biodiversity, it is indeed possible to dive, swim, sail and observe marine life where no other visitor has been; a stark contrast to the popular sites of Waikiki Beach or the Great Barrier Reef.

Finally, there is what some writers call indigenous or cultural tourism which may be defined as 'telling the cultural story of a community to visitors' (Jamieson, 1992). Accordingly, a strong matrix has been developed that identifies four community dimensions: material culture, key community members, the cultural landscape, and non-material culture (Cherem, 1992). All these elements are relevant in order to fully appreciate the cultural manifestation of atoll societies. Material culture in much of Micronesia is represented by objects such as tapa cloth, sailing charts, outrigger canoes and fishing gear. The handicraft industry, if developed with attention to authenticity and quality, could contribute significantly to the local economy, attract tourist buyers and foster the preservation of traditional art forms. Another type of cultural interpretation is embodied in a village leader, master craftsman, experienced navigator or local historian. These individuals are usually well-known figures who personify ideals highly valued in that culture. In a true sense of sustainability and self-reliance, these 'story-tellers' play an important role in meeting the interpretative needs of the tourists. A third example, the cultural landscape, reflects a community's imprint on the natural surroundings. Perhaps man's greatest impact on the atoll environment has been the transformation of the natural flora into taro gardens, breadfruit coves, and coconut plantations. While the coconut is the sole food plant adapted to atoll conditions that has furnished a cash crop, its versatility goes far beyond food, shelter and income. Oliver (1961) states that:

... to the islanders, the milk of the unripe coconut is a prized beverage, the only one, in fact, on many atolls lacking potable water or rain catchment. The meat is scraped from the shell and eaten by itself or mixed into pudding of taro, yams or sago.

The oil is squeezed from the meat and used as food, an ointment, or as cosmetic. The hollowed shell becomes a flask, the clean-scraped shell a cup, spoon or carved ornament. Cord is manufactured from the fibrous husk; furniture, utensils and building timbers from the tough trunk. Leaves are used to thatch huts or weave baskets; and even the pith of the palm is eaten when for some drastic reason the palm is felled (p. 187).

While the importation of goods and materials since World War II has greatly reduced the dependency on the coconut palm, it still dominates the landscape and, together with the local architecture, gardens and community social space, affords the visitor a unique experience of the village microcosm. The impression on the landscape is often a reflection of the belief, tradition and history of the people, generally referred to as 'non-material' culture. For example, certain practices of taboo, the ritual of exchange and the status of individuals have traditionally shaped the natural world of islanders, as illustrated later with the marine tenure system. Today, however, the question to be asked is: 'can tourism and the system of traditional beliefs be compatible?' Experience has shown that tourism commercializes many aspects of culture – performances, crafts, rituals, etc. (Cohen, 1988; Rossel, 1988; Dahl, 1993). Atoll communities must guard against the fact that the presence of tourism can weaken their customary practices, oral tradition and their unique relationship to nature. Too much success in tourism ventures can bring others into the industry, thereby diluting the authenticity and inducing operators to produce more contrived tourist experiences.

In assessing atoll tourism, a number of themes have been identified that recur in many discussions on alternative tourism (Smith and Eadington, 1992). First, the typical tourist enterprise on atolls consists of small-scale, traditional accommodation facilities which are set in and organized by village communities. Second, this form of tourism is ecologically sound; it draws primarily on the resources of the reef system, lagoons and islets above sea level. Third, atoll tourism does not 'exploit' the islanders because the benefits flow directly to the local community where they can be reinvested. Tourism on small atolls can actively encourage respect for indigenous culture through education and small group encounters. From the perspective of the

tourist, remote coral islands provide adventure, no crowds, low-cost accommodation and an underwater experience with famous drop-offs, pristine coral and a diversity of marine life unequalled anywhere else.

TRADITIONAL RESOURCE USE AND TOURISM

This section contains a brief analysis of indigenous marine resource uses from the perspective of how the system was originally used, how it has changed as a result of westernization, and what role it might play in tourism today.

Before European contact, islanders throughout Oceania practised a system of resource use that was generally based on a multitude of reciprocal rights to property (marine habitats) and a close relationship to nature. The traditional marine tenure system (TMTS) serves as a good example to illustrate the complex and intimate connections between man, nature and technology. Every society must adapt itself to an environment in order to survive in a way which is usually facilitated by the invention of a particular technology. Among the atoll dwellers, it is not surprising therefore that much of their technology is made up of skills and techniques associated with fishing, canoe-building and seamanship (Johannes, 1981). If tourism is introduced, other appropriate technologies may have to be introduced in order to exploit additional resources necessary for sustainability. However, whatever the level of technological complexities, appropriate technology must be based on the people's knowledge of locally available resources. It is for this reason that, in so many cases, the transfer of western technology to island environments has not been successful in the Pacific (Foundation for the Peoples of the South Pacific, 1977).

The traditional sea tenure system in Micronesia was believed to have served several functions: to regulate scarce resources; to define resource territories; to establish appropriate technologies; and to identify the economic structure of society (Dahl, 1988). Scarcity of resources has traditionally been controlled by restricting such activities as fishing or shell-collecting, thus increasing the value of these resources. Control was exercised by political authority or the distribution system,

where valued species were presented to the chiefs as tribute. Chiefs could, in turn, redistribute valuable resources, thereby enhancing their status and authority over village communities. Boundaries of resource territories were defined by recognizable natural features such as coral heads, boulders or surge channels. Territorial ownership of specific marine organisms was reserved for high-ranking clan members, while the popular species were subject to frequent communal fish drives (Sudo, 1984). All this required a sophisticated knowledge of the natural surroundings and, at the same time, complicated enforcement because violators could easily escape detection. However, village members were also eager to defend their marine territory from intruders because it represented a vital source for food production. There was thus a strong bond between groups and territory that fostered a willingness to protect resources as a whole. Outsiders required permission to fish in 'closed areas' and then had to share the catch with others in recognition of their ownership rights. Fishing technology, although quite sophisticated, was unmechanized and therefore limited in fishing power. A harvest could only be increased through communal efforts or limited conservation practices, but the small populations on atolls were a disincentive to catch more than was required for immediate consumption. Finally, the economic organization of a community was important to the effective functioning of the TMTS because it was at least partly expressed through property relationships. On atolls, land and resource ownership are powerful incentives to develop kinship ties, individual connections and wealth.

Johannes (1978, 1981) has stressed the fact that an essential feature of the TMTS is its role in fishery and conservation management via protection against overfishing in local waters. While marine conservation measures, when applied properly, served the purpose for which they were designed on most atolls in the Pacific, few island communities continue this legacy today. The literature abounds with reports of over-harvested reef fisheries, the decline in turtle nesting sites and seabird rookeries, and the growing numbers of endangered or threatened species (Oliver, 1961; Dahl, 1984; Beller *et al.*, 1990; Doulman, 1993). Giant clam populations

and pearl-bearing oysters have been greatly reduced in their range. According to one author, there are at least three interrelated causes for the status of the marine biota in the Pacific; i.e. the introduction of a money economy, the neglect of marine tenure practices, and the westernization of native cultures (Johannes, 1978). All three, when imposed upon island society, started the process of environmental deterioration in the region.

Johannes (1978) said it best when he declared that, under a market economy, 'goods are bought and sold, not shared, and therefore fishermen find themselves competing for money, and therefore also for fish. In order to compete effectively, [the islander] must buy better equipment and fish harder. This process is self-reinforcing; the need to spend more money, to get more efficient gear, to harvest more intensively, increases as the number of fish decreases' (p. 356). Under such conditions, the old customs of conservation practised voluntarily by fishermen were abandoned. The new system induced everyone in the community to catch as much as they could because the catch determines their income. Today, many atolls have all but exhausted their inshore fishing grounds, and people have nothing to fish for, while foreign fleets now pursue the deep-water species. In fact, western economic interests have long tried to abolish the marine tenure system because it was seen as contrary to their tradition of 'freedom of the sea' (Johannes, 1982). At the same time, the atolls held few other interests to outsiders, while the colonial 'museum policy' has allowed local people to retain many other aspects of their traditional life style (Zann, 1985).

What can we learn from all this, and what can be applied to the new intruder into Oceania – the tourist? The issue to be determined is how the old TMTS can be modified to serve as a management tool for appropriate tourism on atolls. To be sure, the traditional TMTS was an effective procedure for the rational use of resources based on such concepts as closed seasons, selected harvest, restricted entry, or territoriality. These practices represent a variety of opportunities for managers concerned with establishing or maintaining marine-protected areas (MPAs), also designated as recreation sites. Only minimal levels of investment in visitor infrastructure will be

required, and some form of revenue-sharing partnerships between the community and government agency may be required to provide the support needed for MPAs catering for tourism (Holthus and Thomas, 1990). As in the past, the rights to use such reserves should continue to be under the control of a clan, chief or family, not the government. In reality, this constraint would involve selecting leaders along traditional lines as representatives of resource owner groups who can organize communities to initiate measures for tourism management. Community-based approaches to management involve 'bottom-up' planning and decentralized decision-making (Krausse, 1994). Moreover, it is likely that such a regime is more cost-effective because, through participation, tour operators will observe the regulations, and enforcement costs will therefore be lower. Under present conditions, a department or ministry of tourism assumes sole responsibility for planning and conservation measures. This is a difficult and expensive proposition and close to impossible to implement on the most remote outer islands. Hence, efforts to protect and properly use and develop resources for tourism are unlikely to succeed without the total involvement of a clan and its understanding of local conservation methods. Considering their intimate knowledge of species and habitats, the time has come to recognize village members as official wardens for protected areas, thereby enhancing the effectiveness of resource management, as well as the tourist experience. In the case of group disputes or boundary conflicts, the government should be prepared to provide the services needed for negotiation and conflict resolution.

Although traditional ownership rights have facilitated the conservation of marine resources, increased populations and the demand for export have placed tremendous pressures on the remaining bounty of the sea. Since the money economy in Oceania is probably here to stay, more emphasis should be placed on generating cash income from tourism rather than continued concentration on the exploitation of aquatic resources. A number of case studies have shown that nature tourism can make significant contributions to MPAs through entrance fees, permits and concessions (Tabata, 1990). In Bonaire, diver fees and other operation costs

brought in nearly US\$5 million in 1992, while the Saba Marine Park has become totally self-supporting from user fees, souvenir sales and donations (Dixon, 1993). In the Galapagos National Park, it is estimated that the current fee of US\$40 could be increased to \$700 without significantly affecting the total flow of annual visitors (Lindberg, 1991). In fact, many destinations rarely charge admission high enough to keep the number of visitors at or near carrying capacity.

Successful tenure systems are indicative of the fact that islanders put themselves into a stewardship position rather than a purely exploitative relationship with nature. Most inhabitants of atolls spend all their lives in this environment and, as such, develop a close symbiotic relationship with the world around them. As one author discovered, the people of the Fais Atoll (Caroline Islands), 'use a sophisticated mental map' collectively to interface with their surroundings (Rubenstein, 1978). The same can be said for the islanders' diverse cultural attributes, their religion and social organization, as well as their skills in navigation that allowed them to explore all corners of the Polynesian triangle. In order for these achievements and traditions to be protected and respected by the 'neo-colonial tentacles of tourism', there is a need for local communities to establish a code of ethics. Such a code must contain an appreciation for, and respect of, the natural environment and the cultural and aesthetic quality of the tourist destination (Kutay, 1989; D'Amore, 1993; Wight, 1993). The goal must be to achieve tourist behaviour that harmonizes with the social aspects of the traditional tenure system. Different types of codes should be established for both the visitors and the local guide or tour operator. Visitor codes should advise participants of the expected behaviour on the site and what to look for in environmentally sound tourism. Here are some examples (modified after: O'Grady, 1990: p. 67; Scace *et al.*, 1992: pp. 29–30):

- (1) Realize that atoll dwellers have time, space and resource concepts different from your own; this does not make them inferior, only different.
- (2) Travel with a desire to learn more about other people, and instead of the Western practice of knowing all the answers, cultivate the habit of listening.

- (3) Accept ecological principles as the preferred basis for determining the capacity of atolls to support tourism activities and facilities.
- (4) Engage in behaviour that contributes to a spirit of partnership and acquaint yourself with the local customs (TMTS) of the island.
- (5) Recognize that, to the islanders, man, nature and spirit are part of a single order, whereas Western society tends to regard man as being conceptually separate from nature which is only to be manipulated to his advantage.

Operators and tourist guides, on the other hand, should develop their own codes of ethics. These codes must communicate specific practices to the visitors (such as the conservation practices of the TMTS), as well as information on proper waste disposal, visitor safety, local ecology and the cultural history of the people. A comprehensive travellers' code of ethics and practice should not only serve as an expression of human conduct, but also as a guide to sustainable development.

As in the case of the traditional tenure system, the tourist ventures (tours, guides, guest-houses, etc.) can and should be administered by the village leadership. In former times, the marine tenure practices depended on the collaborative authority of the village council, chiefs or priests equipped with taboo powers (Chapman, 1987). Today, much of this form of governance has been replaced by a European system of administration. Nevertheless, some sort of functional substitute, based on the principle of the TMTS, still operates as an alternative to central government intervention on many peripheral atolls. In Kiribati, for example, central authorities working closely with village leaders have enacted regulations resulting in water-use restrictions similar to those of former TMTS practices. On other islands, governments have also recognized the importance of local village authorities in the management of resources and have given them greater autonomy in local affairs (Zann, 1985).

There is no doubt that the enforcement of government regulations lies at the heart of much of the dilemma in managing marine resources and tourism in Oceania today. In many cases, there is still much greater respect for the

customary laws governing human affairs than those imposed by governmental bodies. On Falalop Atoll in Micronesia, a chief imposed a taboo in 1974 on all residents of the island for a violation by someone for harvesting turtles. A 3-week ban on any type of fishing was obeyed without exception by all inhabitants (Chapman, 1987). The point is that village leaders can still provide a catalyst for circumstances in which community interest appears to be threatened. In order to revive traditional practices for contemporary (tourism) management issues, it is essential to understand the social context in which the old village political structure operated.

TECHNOLOGY WITH A HUMAN FACE

The failure of modern technology to generate real development in Oceania can be explained in large part by its inappropriateness; it conflicts with traditional practices; it is by nature capital-intensive and labour-saving; and, by concentrating on large-scale infrastructures, fails to benefit most islanders. At the same time, it is clear that indigenous technology, on its own, is unable to solve the growing problems faced by atoll communities. Hence, more recognition has been given in the past two decades to the introduction of technologies that are culturally, economically and socially more appropriate. In this portion of the paper, the author will attempt to identify some options for the people of the atolls in the field of appropriate technology – in particular, how this approach can benefit community-based tourism.

The concept of appropriate technology, also known as intermediate, self-help, or 'soft' technology was first popularized by E.F. Schumacher (1973) who sensibly referred to it as the 'technology with a human face'. Schumacher (1973, p. 163) believes that, in the broadest sense, this technology is 'intermediate' because it is superior to the primitive technology of the past and yet is simpler, cheaper and freer than the super-technology of industrial society. More importantly, it is a technology to which everyone can have access; it is more compatible with the laws of ecology; it is 'gentle' in its use of scarce resources; and is designed to serve the people

rather than making them servants of machinery. At this level of technology, the equipment is far more understandable, suitable for maintenance and on-the-spot repairs, less dependent on raw materials of exact specification and purity, and finally much more adaptable to market fluctuations than highly sophisticated equipment. People are more easily trained, control and organization are simpler, and there is far less vulnerability to unexpected difficulties.

As these qualities of appropriate technology came to the attention of the Foundation for the Peoples of the South Pacific, it organized a Conference on Intermediate Technology for the Pacific Islands in April, 1976. The publication which resulted from this meeting contained 14 case studies, guidelines for the expansion of appropriate technology, and information about agencies that can provide further assistance, such as the Appropriate Technology Development Group in London or the South Pacific Appropriate Technology Foundation in Papua New Guinea. The delegation of the conference concluded that 'the structure and cultural tradition of Pacific societies can only be saved by developments that give high priority to intermediate technologies' (Foundation for the Peoples of the South Pacific, 1977). Through technologies appropriate to community lifestyles, islanders can produce more of their own foodstuffs and develop a variety of import-substituting enterprises such as aquaculture, village tourism and energy production. The resource agencies that currently promote intermediate technology projects in the Pacific subscribe to the following goals and objectives:

- (1) To help people help themselves;
- (2) To improve the quality of life;
- (3) To foster community self-reliance;
- (4) To stimulate self-employment; and
- (5) To promote sustainable development.

The underlying focus of these goals is to minimize the dependency on foreign goods, while, at the same time, encouraging technological alternatives that complement capital-intensive strategies. This approach also encourages development initiatives which are more compatible with the local environment and culture (Regenvanu, 1977).

To illustrate the application of intermediate technologies to community-based tourism on atolls, the following development activities are discussed briefly below: transportation, energy development, tourist accommodation and communication technology.

Transportation

Remote coral atolls provide a special set of transportation problems that have a direct bearing on the access to and mobility within these destinations. The infrequency and unpredictability of transport services continue to result in occasional shortages in both supplies and numbers of visitors to these areas. However, relatively loose scheduling of arrivals and departures are required because of rough seas or dangerous channel passages at periods of high tide. Many atolls also lack basic transportation facilities, and wherever dockage, airfields or navigational passages exist, their size and condition limit cargo and passenger capacity. It is for these reasons that movement of commodities and visitors to atoll destinations tends to be relatively expensive.

Many islands in the Pacific rely on copra production, and the transportation of this product to consumer markets is well organized. Copra is collected from several atolls and shipped by small, privately-owned vessels to common collection points for processing and exporting. A new approach for reducing freight costs and increasing opportunities for travellers is to offer a passenger-freight load combination. The mixed-cargo mode of transportation would not only increase the revenue-load potential, but also reduce the business risk and provide tourists with a unique experience. One such vessel, a 45-foot intermediate-technology catamaran, was built by a British company for the purpose of carrying a mixed payload (seating 44 passengers) between several ports on the west coast of Africa. The plywood and timber used are available locally, while the fibreglass, diesel engines and waterjets are all imported (Anon., 1992).

To attract more visitors, numerous coral islands have devoted considerable efforts to upgrading their inter-island air links. For example, in the Marshall Islands, since 1980, some 25 runways have been constructed in the outer islands

(Polson, 1987). Dedicated air cargo service, however, has had little success in the central Pacific because of the unfavourable economic context, low volume, irregular traffic and long distance. It seems more logical that the movement of passengers and regional trade could benefit by strengthening both surface and air transport. Co-ordinated planning of a transportation network would certainly reduce the one-way traffic; that is, the heavy import trade coupled with very limited out-bound cargo.

For transportation in and around atolls, small outrigger canoes and outboard motor boats of different designs for fishing and recreation are a common sight. In most cases, not only are some of these vessels over-powered, but they also have high fuel, engine and repair costs. Alternatives to the gasoline outboard motor are being explored on many fronts (McLear, 1981; Shortall and Lowry, 1983; Samples and Prescott, 1984; Suman, 1987).

Despite their high initial costs, both diesel outboard motors and sail-assisted technology could become more cost-effective over the long-term. Retrofitting existing fishing vessels with sailing gear is a relatively inexpensive way to take advantage of unlimited wind power, while saving fuel and operating costs. In an experiment in Florida, the installation of a free-standing sail in a 38-foot fishing vessel required a capital outlay of \$10 000, but fuel savings per hour are reported to be about 30% (Kilbert, 1981). This would be a sizeable reduction in fuel consumption for a similar sail-assisted tour boat which regularly takes long-distance trips across a lagoon or around the outer reefs.

Another promising experiment of harnessing wind power is undertaken through the so-called yacht conversion method. Here, the strategy is to build a small passenger vessel using an easily driven yacht hull. The advantage of using an efficient hull design is to allow for significant fuel savings even when operating under full motor power (Samples and Prescott, 1984). Plastic tubes, ferro cement and fibreglass have all been used successfully to construct even traditional hull designs. In the Caribbean, these materials have been used to reinforce wooden boats, thereby greatly extending their lifetime (Suman, 1987). In Costa Rica, a sail-driven trimaran was constructed from composite panels of epoxy and

locally available scrub wood. This vessel is beachable, rowable, fast and can carry 1500 pounds of cargo (Suman, 1987). Clearly, there are several options that can be explored to introduce more cost-effective modes of marine transportation for the purpose of taking tourists to specific site attractions on atolls, although much of it is still experimental and will require considerable initial investment. However, as retrofitting existing vessels becomes more common and the costs decrease, it may yet prove to be the most economical path for providing affordable transportation for local tour operators.

Energy development

The unstable oil market, coupled with the growing demand for fuel by both residents and visitors, is forcing atoll communities to seek alternative energy sources. The islands have never had any conventional energy sources, and consequently have always been vulnerable to the cost and supply of imported energy. However, the opportunities exist in Oceania for the production of biomass energy, coconut-derived energy, as well as wind and solar energy. All of these sources of power can be integrated into tourism projects and supply at least a portion of their required energy needs.

Energy derived from household and crop waste, wood and other waste products offers a potentially important substitute to imported fuel oil. The essential feature of the system is a digester: an oxygen-free container in which organic matter is fermented by microorganisms producing 'biogas' and a thick slurry. Completely fermented slurry can be used as feed additive, potting soil, and fertilizer. Biogas (a methane-rich gas mixture) can be used to generate electricity and operate refrigerators and also modified gas engines. The quantity of this energy will depend on the amount and type of organic matter, digester capacity, and ambient temperature. A single-household digester could be installed in each guest-house unit in a tourist development. The community benefits derived from the digester system are: increased yields in vegetable gardens, no costs for waste disposal, reduced fuel imports, and fewer health hazards due to improper waste disposal (Polson, 1987). The only constraint to more frequent applications of these biogas systems may be the

cultural resistance to handling waste products and the initial investment costs.

Fuel wood, including coconut husks and shells, is the most abundant and inexpensive fuel source on atolls. Much of this fuel is used for cooking, distilling salt from seawater, and bleaching Pandanus leaves for handicraft items. Visitors, in particular, may appreciate the smoke from coconut charcoal as an effective insect repellent. The oil of the coconut has been substituted for diesel fuel, experimentally, and showed no effects on engine power (Polson, 1987). Successful coconut oil-fuelled generators have potential application as power generators for tourist facilities. In 1983, a cost-benefit analysis revealed that a 10-kW coconut-fuelled generator-expeller combination was more cost-effective than a photovoltaic system of the same size (Kasper, 1983). However, again, for the current living standards of the outer islanders, these systems are still too expensive and can only be obtained through grants or aid programmes.

Grants were given to the Federate States of Micronesia in 1977 by the US Department of Energy to establish pilot programmes designed to encourage local communities in running their own energy technology projects. The results of several projects have been reported from the islands of Romanum, Guam, Yap and Kolonia, where active and passive solar systems, biomass conversion, solar photovoltaic systems, energy conversion and sail-assistance for small vessels were tested (Case and Actouka, 1984). Two such demonstration programmes are described briefly below to illustrate the diversity and rate of success in adopting self-help technologies on the islands.

In the first instance, an Outward Bound education centre on Kolonia received a grant to build a number of renewable energy devices and to teach the skills to their students. The projects included a Savonius rotor wind machine, a 1.5-kW commercial aero-powered windmill, a 115-watt solar photovoltaic system, a solar water-heating system, and a small, solar water-distilling unit (Case and Actouka, 1984). The school is well-organized, the staff has a good reputation in working with its youth, and the combination of talent and commitment made these ventures a success. The projects had the right combination of commercial and home-built systems which gave

the students an opportunity to learn the techniques of building and maintaining a diversity of mechanical and electrical equipment. Such training should be beneficial if and when energy and water-heating devices have to be installed in tourist-related facilities and accommodation.

The second grant programme pertains to the Yap Institute of Natural Science, which is a family-owned educational facility with a long record of introducing small renewal energy systems to the public. The Institute has been successful since its inception and continues to be well-received by island governments throughout the Pacific. Some of the projects – a solar oven for cooking and drying copra, a passive solar ventilator for cooling homes, and a wood-burning cooking stove – have been tested and are now being built in numerous island communities (Case and Actouka, 1984). What is most significant is that the Institute is both compatible with local customs and held in high regard, locally, in its dealings with appropriate technologies. People of the atolls will try out good ideas if they are demonstrated in a low-key fashion. In order to convince local consumers, energy-saving devices must work and must be reliable over time. Once they break down, repairs are difficult to perform due to the lack of parts and technical skills. A broken energy system can have considerable negative effects in places where people are just beginning to show an interest in new technology. If atoll societies are to use less energy and try to find substitutes for petroleum products, the educational efforts must begin in local institutions. The Yap Institute is a good model for how other groups could operate and, as such, it will play an important role in establishing a network of soft-technology users throughout the region. Such a network can serve to transfer ideas, promote further use of intermediate technology, and prevent failures from recurring.

Tourist accommodation

Large-scale tourist accommodation facilities in such destinations as Hawaii or Fiji are characterized by a strong hierarchical organization of building forms, disregard for local environmental and cultural resources, and importation of necessary building technology. Here is how one designer described a typical Western building in Fiji:

... a typical monstrosity where the roof is supported by walls. A few holes are plugged in the walls for windows. The holes provide no cooling cross-ventilation, and the building is sweltering in the morning heat. At night the windows have to be closed to keep out mosquitoes . . . The roof is corrugated metal, which absorbs even more heat and during rainstorms makes conversations inside the building impossible. Yet as buildings go, it is the best in the village of Rukuruku . . . By contrast, the fale of Samoa, a traditional structure, is ideally suited for the tropical conditions of the Pacific. It has no walls, and the roof is thatched, insulated and supported by four pillars. At night mosquito netting can be dropped from the roof to keep out insects without compromising cross-ventilation. (Walker, 1977: p. 55).

For centuries, the plantation compound of the colonial era was the preferred resort model in the tropics. It consists generally of a series of imposing multi-storied structures arranged in relatively close proximity. This type of development satisfied its own needs through exploitation and importation, rather than through harmonic integration with the host environment. Yet, despite these negative connotations, it is still found in design and operation in many tourist resorts today. Another development, the community or village-type resort, tends to focus more on activity rather than the built environment; the interaction between host and visitor is more democratic. While the community model recognizes a dependency on resources for its activities, it makes only a marginal investment in sustaining the local ecology. A more appropriate metaphor for sustainable building design may be identified with Aesculapia, an ancient Roman site symbolic of healing (US National Park Service, 1993). In this design, nature is respected for its restorative quality, and the human experience is set in harmony with the environment. The current emphasis on ecologically sound tourism provides an excellent opportunity to apply Aesculapian-based building design to visitor accommodation facilities on atolls. Such a building design meets the following objectives (modified after US National Park Service, 1993: pp. 59–60):

- (1) It respects the natural and cultural resources of the site;
- (2) It uses the simplest building technology responsive to local climate;

- (3) It incorporates passive energy-conserving strategies;
- (4) It creates a 'rite of passage', leaving consumptive values behind;
- (5) It uses renewable indigenous building material;
- (6) It avoids energy-intensive, waste-producing or hazardous material;
- (7) It strives for 'smaller-is-better', optimizing space and building size; and
- (8) It considers phasing the development to allow for the evaluation of environmental impacts.

Depending on the location in the Pacific, architectural styles may vary, but most Polynesian and Micronesian structures have a stone foundation, thatched roofs, and room dividers that allow for easy air-ventilation. In New Guinea, guest-houses built in this fashion have demonstrated their viability as small-scale enterprises based on local ownership, management and construction materials (Ranck, 1987). A typical visitor compound may consist of a series of bungalows separated by facilities for cooking, toilets and showers. To appreciate the natural and cultural uniqueness of a settlement on coral islands, the facilities must be human-scaled and in sympathy with the sensory features of the landscape. Furthermore, the facility design must reflect seasonal variation in weather patterns. Atolls are known to face frequent droughts and tropical cyclones which can limit water supplies and destroy coconut groves, gardens and makeshift structures. Local building materials are also susceptible to insect damage such as that by carpenter bees and sago beetles, limiting building life to about 5 years (Ranck, 1987). However, despite these shortcomings, the atoll's other environmental characteristics may prove that guest-house programmes are economically viable forms of appropriate tourism accommodation. It is the very isolation that gives atolls a sense of place and has so far prevented the greatest potential danger – exceeding the optimum carrying capacity. The potential for recreation, living space, waste disposal and water supply is adequate for small groups only. Any increase beyond the optimum level of visitors will trigger environmental degradation and user conflicts.

Communication technology

Effective communication technology can improve visitor awareness of recreational opportunities, stimulate participation and enhance resource appreciation. One form of communication media that may prove useful in providing tourist information on remote islands is the low-power AM radio. By definition, a low-power radio is a low-wattage radio station which broadcasts information on the AM frequency. It requires an audio recorder, a vertical antenna, and an AM transmitter to broadcast messages (Sharpe, 1979). In 1980, low-power radios were employed by the US National Park Service to provide visitor information on park attractions, safety tips and interpretation of resources (Fazio and Gilbert, 1986). More recently, the Oregon Department of Fish and Wildlife began testing low-power radios as a tool for transmitting information to visitors, touring coastal highways for points of ecological interest (DeYoung, 1991). The future for low-power radios as a distance-learning tool in nature tourism seems promising. For example, with inexpensive AM headphones, visitors can receive narratives while walking designated trails across reef flats or bird nesting areas. Such guided tours can teach tourists appropriate stewardship practices which help to maintain the marine ecosystem. Within a 5-mile radius, AM radios can also provide a broadcast message to fast-moving tour boats across a lagoon. Successful testing by Sea Grant Programmes in New York and Oregon has shown that this technology has the potential to deliver visitor information inexpensively (DeYoung, 1991).

CONCLUSION

Since World War II, the inhabitants of atolls in the Pacific have seen their quality of life change dramatically, and in ways often not compatible with their tradition. If positive change is to occur, a method must be found that is workable, culturally acceptable, and improves people's standard of living. It has been argued in this paper that if tourism is to be introduced to the coral island communities, it must be predicated on the involvement of local stakeholders, their customary resource-use practices, and a technology that is appropriate to small entrepreneurial interests. The challenge for the

communities is to identify what is unique about their destination, how to tell that 'story' and how to use it to their advantage in the context of tourism. From the perspective of the tourist industry, there is a movement under way that incorporates into the travel experience a sensitivity for the destination and the recognition of a common humanity of visitors and residents. Thus, in order for community-based tourism to maintain its authenticity and sustainability, the following principles must be subscribed to:

- (1) Strong local involvement: communities must exercise control over the growth and development of tourism if they want to minimize the destructive practices of resource use. One form that this participation can take is to have members of the community contribute their skills, labour and resources, thus becoming long-term investors in tourist projects.
- (2) Empowerment through decision-making: communities must make their own decisions regarding the kind of tourism they want and the type of appropriate technologies they should acquire before they can have a sense of 'ownership' in tourist projects.

- (3) Linking tourism to conservation: the benefits derived from tourism (employment, income, etc.) should act as incentives to promote conservation practices and mitigate environmental degradation. Various aspects of the traditional marine tenure system could form the foundation for sustainable tourism management.
- (4) Identify a management team: the village power structure (chiefs, clans) must take a leadership role in planning, conflict resolution and the distribution of benefits derived from tourism. The existing social hierarchy in atoll communities could play an important role in this selection process.
- (5) Evaluating tourism projects: a process should be developed which allows the management team to monitor and evaluate the economic, cultural and conservation objectives.

If these guidelines can be met, a low-impact, indigenous form of sustainable tourism could serve as a model for small atoll societies throughout Oceania, the Indian Ocean, and also the Caribbean.

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Resource, Energy and Water Conservation by Hotels and Other Tourist Accommodation at a Major Pacific-Rim Tourist Destination

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The aggregate environmental impacts of the tourism industry depend not only on the best environmental practice by industry leaders,¹ but on the degree to which such practices are adopted by the industry as a whole.² Here we examine this issue for the 580 tourist accommodation providers in Australia's Gold Coast, one of the oldest³ and largest⁴ tourism destinations in the Pacific Rim region. These include hotels to 5-star ranking, motels, holiday apartment complexes, backpacker hostels and caravan parks.

A third to half the hotels have room-light master switches, ceiling insulation, and off-peak electricity, and over three quarters use energy-efficient light globes. These are rarely installed throughout the entire building, however. Energy conservation measures are much less common in other forms of accommodation. Overall, one in eight buildings had a computerised energy management system. A third to over half of accommodation providers, in all categories, have water-saving dishwashers and laundries, low-irrigation landscaping, and water-saving shower heads. Again, installation is partial and patchy.

A third to half of accommodation providers recycle plastic, paper, cans and glass. Paper recycling is more common in hotels. Some motels and caravan parks, but not hotels, use compostion systems for food residues. From half to two thirds of hotels use disposable cutlery, plates and cups at least occasionally, compared to less than a quarter of motels. Paper napkins are used by two thirds of motels and apartments and an even higher proportion of hotels. Most provide individual toiletries, and very few refill or re-use partially used items. These were mostly 5-star hotels. This reflect differences in the types of toiletry items provided.

Interestingly, about a quarter of the accommodation providers stated that their clients enquired specifically about environmental management issues, particularly recycling. The proportions of clients who made such enquiries ranged from one in 20 to one in 4. Measures to improve environmental performance have generally been adopted to cut costs rather than to increase revenues by attracting environmentally-concerned clients. This reflects the type of destination.

Overall, there is a high level of interest and awareness, high penetration of simple cost-saving technologies, but low saturation and ample opportunity for further savings.⁵

¹ International Hotels Environment Initiative, 1993. *Environmental Management for Hotels*. Butterworths-Heinemann, Oxford

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³ Russell, R, 1995. *Tourism Development in Coolangatta: an Historical Perspective*. Centre for Tourism & Hotel Management Research, Griffith University, Gold Coast. 130pp.

⁴ QIDC, 1996. *Technology & Tourism 1996*. QIDC, Brisbane and Singapore.

⁵ This abstract summarises Buckley, R.C. & Araujo. G.ms. *Environmental management performance in tourist accommodation on Australia's Gold Coast*. Submitted to *Annals of Tourism Research*.

Environmental Impact Assessment for Tourism Development in Australia : Retrospective Evaluation

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Tourism and travel is one of the largest and fastest-growing industry sectors both in Australia and worldwide. Worldwide, the tourism sector generated over US\$0.3 trillion in 1995, or 11% of world GDP, and employed 11% of the total workforce. In Australia, the tourism sector employed 7% of the Australian workforce and generated Aus\$44 billion in 1994/95, or 7% of GDP. Tourism contributes 13% of Australian export earnings, substantially more than traditional export commodities such as manufacturing, coal, wheat or wool.

Australia has had legislative frameworks for EIA at federal and state level since the 1970's. Broadly, federal-level EIA is triggered for tourism developments in Commonwealth Territories and World Heritage areas. There are considerable differences in EIA legislation between states. Here we summarise retrospective evaluations of triggering mechanisms at local government and statewide level, and technical quality nationwide, for EIA of Australian tourism developments over the past one and a half decades.

Almost all tourism development in Queensland is coastal. From 1986 to 1993 there were 105 tourism development proposals >15ha in the 38 coastal LGA's in Qld, 42 in Albert Shire and the remainder in 24 LGA's along the eastern seaboard. Overall, 38% of these applications were subject to EIA. EIA was required for 12 of the 13 proposals incorporating both a marina and a golf course, 8 of the 16 with a marina only, 12 of the 44 with a golf course only, and 7 of the 31 with neither. These differences are statistically significant at $p < 0.001$. Marinas and golf courses had no significant effect on final development consent, but only on the requirement for EIA. EIA was required for all of the largest proposals (>430 ha), but below that area, the triggering effects of development size were indistinguishable from those of specific developments components. Generally, EIA was carried out only where mandatory. e.g. directly under State law for developments incorporating marinas. Where discretionary, EIA was generally avoided, even though some of the tourism developments concerned involved large areas and major civil and sanitary engineering works.

A more detailed comparison was carried out by examining all development applications for Albert Shire in southeastern Queensland (Qld) and Maclean Shire in northeastern New South Wales (NSW), which has a similar area, similar environments, similar types of tourism development application, but a smaller population and more stringent EIA requirements. Each LGA received 3000-3500 rezoning, town planning and development from 1980 to 1993 inclusive. Of these, 364 applications in Albert Shire were for tourism developments, and 69 in Maclean Shire. EIA was triggered only for developments >15 ha in area or incorporating a marina or golf course. For developments of these types, EIA was triggered for 8/158 applications in the Qld LGA and 7/19 in NSW. These proportions are significantly different at $p < 0.001$. The NSW legislative framework is hence much more effective in triggering tourism EIA. The proportion of projects subject to EIA which were actually approved and constructed, however, was significantly higher in NSW: an effective legal framework for triggering EIA is not a barrier to successful tourism development.

Criteria for technical quality in an EIS include the depth and breadth of baseline studies. And the scope and detail of testable impact predictions and proposed monitoring programs. These parameters were therefore, quantified for all 170 tourism EIS's throughout Australia from 1975-1993 inclusive.⁴ These ranged from a 3m jetty extension in NSW to a 10000-person residential resort in Qld. Most were coastal. Mean area was >200 ha.

For the biological environment, baseling date were collected most frequently for terrestrial flora and least frequently for marine biota. Only 65% of EISs specified sampling dates for flora, 14% specified sampling sites, and 6% sampled for more than one seasom. For terrestrial fauna the proportions were 78,16 and 14%, and for marine biota 78, 57 and 13% respectively. For EISs providing baseline biological data only, only 16% estimated plant species richness or abundance, 44% for fauna and 52% for marine biota. Even fewer EISs contained baseline data on the physical environment. Water quality parameters, principally pH and temperature and less often nitrogen and phosphate, were the most frequently sampled. Groundwater was never sampled more than once; terrestrial surface waters 6.7 times on average, and marine waters 14.7 time.

Most impact specifications were vague and unquantified, even for recent EISs. Some EIS's differentiated between construction impacts and operations, especially for marine biota dna marine water quality. Most referred at least to habitat loss. Mathematical models were used to predict water quality and hydrology in some EISs. But never to predict biological impacts. The degree of quantification increased from 1975-1987 but remained constant 1988-1992.

Monitoring programs were conducted for 17 of the 76 tourism developments where construction commenced. Many were not implemented fully, and 3 were informal. The most detailed were for 4 major projects in or next to the Great Barrier Reef Marine Park (GBRMP). Most monitored water quality; none monitored terrestrial flora or fauna; and only the 4 reef projects and one NSW ski resort monitored aquatic biota. Monitoring designs were rarely adequate to detect changes relative to baseline. Power analyses were conducted for only three developments, and power was low. There were only 17 individual impact predictions which were testable using monitoring data. Seven of these proved accurate. For 6, actual impacts were less severe than predicted; and for 4, they were more severe. Inadequate engineering design and inaccurate nutrient-flux models were the most common causes of inaccuracy.

By objective measures, therefore the quality of EIA for Australian tourism developments over the past 2 decades has not been high. Triggering mechanisms have been circumvented, baseline studies have been sketchy and inadequate as a basis for testing impacts, and testable impact predictions rare; even though actual development patterns show that high-quality EIA is not a barrier to successful tourism development. EIA assessment agencies need to set significantly higher standards for tourism EIA, or the tourism industry will rapidly degrade its own resource base. In particular, sampling design for baseline studies and monitoring programs needs far more careful attention.

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⁴ Warnken,J. and Buckley, R.C. 1995b. EIA for tourism development in Australia over 15 years. Turning Growth into ESD - Economically. Environment Institute of Australia, Brisbane.

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Ecotourism and Sustainable Development in Australia

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Australia has a *National Ecotourism Strategy*, released by the Federal Government in 1994; and a National Ecotourism Program which provides approximately \$2million annually for ecotourism projects. Most of this funding is for infrastructure and specific ecotourism developments, but some grants are provided for regional ecotourism planning, and for research on environmental baselines and monitoring techniques. Several of the States have ecotourism strategies in place or in progress, either independently or as part of state tourism strategies. The *Draft Queensland Ecotourism Plan* provides one example. A number of local government authorities (LGA's) and regional LGA syndicates have produced their own ecotourism plans, such as that for Dumaresq Shire in northern New South Wales, and some are funding ecotourism development infrastructure of various kinds, especially interpretive centres. Ecotourism is one of the management goals of World Heritage Areas such as the Queensland Wet Tropics and the Great Barrier Reef Marine Park. The Ecotourism Association of Australia, formed in 1991, currently has about 500 members. Private tourism operators advertising themselves as ecotours or ecolodges are commonplace. Several universities, including Griffith, offer undergraduate courses or majors in ecotourism. Most tourism conferences contain at least a session devoted to ecotourism, and there have been several conferences devoted specifically to ecotourism. Several environmental non-government organisations have prepared policies on ecotourism, and State Government agencies such as National Parks Services and at least one Forestry Commission have incorporated ecotourism in their management planning.

At first sight, therefore, it might appear that ecotourism is now a mainstream part of Australian tourism. This impression, however, would be misleading. Many people have heard the term ecotourism, but few know what it means. Tourism industry operators still commonly use the term simply to mean nature-based tourism, irrespective of associated environmental damage. Misleading advertising is rife.¹ Nature-based tourism, especially in national parks and other conservation reserves, is growing very rapidly and threatening primary conservation values.² Many urban hotels and other tourism accommodation providers have adopted at least some energy, water and resource conservation measures, but usually only piecemeal and sparsely, so the aggregate effects are still small.³ Most new large-scale greenfields tourism developments still have major environmental impacts, and few developers adopt best-practice environmental design unless forced to do so as a condition of development approval; even though they may subsequently advertise their environmental management as part of a green niche marketing strategy.

The quality of formal environmental impact assessment and environmental monitoring for Australian tourism developments over the past 15 years has been very poor, with no signs of any increase in quality recently.⁴ One major resort chain propounds its own code of environmental practice, but cleared part of a national park to construct a golf course!⁵ One of the peak industry associations also has a code of environmental practice, but major tourism developers pay it only lip-service, if that.

¹ Buckley, R. and Araujo, G., *Ann. Tour. Res.* (in rev., a)

² Buckley, R. 1995. *Environmental Impacts of Wilderness Campsites*. Report to Department of Tourism; Warnken, W., and Buckley, R., Indicators of recreational impacts in rainforest. *Proc. EIA Conf.*, Brisbane.

³ Buckley, R. and Araujo, G., *Ann. Tour. Res.* (in rev., b)

⁴ Warnken, J. and Buckley, R. 1995. EIA for tourism development in Australia. *Proc. EIA Conf.*, Brisbane.

⁵ Harris, R., and Leiper, N., 1995. *Sustainable Tourism: an Australian Perspective*. Butterworth-Heinemann.

Few large tourism operations, even major tour operators which provide commentaries for clients, have any form of environmental training for staff, and the average quality of environmental education in the Australian tourism industry is very poor.⁶ The importance of sustainable management is perhaps gradually being recognised in the Australian tourism industry, but slowly and by no means consistently.

On the positive side, there are now dozens of small ecotourism operators who have adopted the best available environmental management practices, who provide a very high quality of environmental interpretation, whose staff have tertiary-level training &/or long local experience in environmental science, and whose clients gain an appreciation of the importance of environmental conservation as well as an enjoyment of Australian natural environments. Some of these operators provide day tours, some provide extended safari-type tours, and some have constructed ecolodges.⁷ These operators are indeed using ecotourism to promote the principles of sustainable development. We can only hope that they represent the leading edge of Australian tourism development rather than a small niche subsector.⁸



⁶ Weeks, B. *Quality of Environmental Education in Australian Tourism*. PhD Thesis, Griffith University.

⁷ Hawkins, D. et al. 1995, *The Ecolodge Sourcebook*. The Ecotourism Society; Harris & Leiper, *op. cit.*

⁸ A previous version of this paper was presented at the Ecotourism Special Session of the 6th International Symposium on Society and Natural Resources in May 1996.

Tourism and waterfront renewal: assessing residential perception in Newport, Rhode Island, USA

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ABSTRACT

The purpose of this study is to examine the perception of harbor residents on tourism and waterfront redevelopments in Newport, Rhode Island. In the summer of 1992, about 160 surveys were conducted of households located directly in the tourism district. The results indicate that by and large the waterfront community perceives the current traffic conditions, inadequate parking, lack of privacy, and commercial intrusion into neighborhoods to be the consequences of increased tourism. Negative attitudes towards waterfront renewal are associated with perceived difficulties in having access to the water, lack of affordable housing, continued marine pollution, and the proliferation of non-water-dependent uses in the harbor. Conversely, several favorable reactions raised by residents included increased property values, successful historic preservation, and the participation in tourist-related events and amenities. Despite their geographic proximity to the business district, the development activities on the waterfront and the opportunities generated by tourism, few residents feel they have benefited economically from these advantages. Currently, the political climate in Newport is such that a comprehensive harbor management plan can become a reality. It is hoped that residents will then have an opportunity to incorporate their issues into policies of the plan.

1. INTRODUCTION

Small recreational harbors along the Atlantic Seaboard have experienced a remarkable renaissance after decades of economic decline and environmental degradation. Since the early 1970s, federal and state

policies have evolved to promote every aspect of their waterfronts—environmental protection, shoreline access, water quality, historic preservation, tourism and economic development. On the local level, the growing potential of the waterfront is reflected in the public and private interest for recreational, commercial, and residential uses. However, the revival of seaport towns has a downside as well—crowds and congestion, the need for more public services and housing, the displacement of water-dependent uses, and a seasonal fluctuation of the local economy due to tourism are some examples. These problems confronting residents and officials alike often threaten to erode the very quality and identity that make the harbor environment a special attraction today.

Festivals and water sports are perhaps the most visible public-oriented activities that have played a key role in the rediscovery of the waterfront. Civic gatherings are most important during the early stage of waterfront renewal because positive public perception and support are essential for success. Boat shows, regattas, fishing tournaments, and the annual 'Blessing of the Fleet' create not only public awareness, but substantial economic benefits as well. The Tall Ships Celebration in Newport in the summer of 1976 had an economic impact on the Rhode Island economy of over \$15 million, while the International Sailboat Show brings in an estimated \$500 000–800 000 annually.¹ Despite the associated problems of parking, large crowds and sometimes neighborhood resistance, 87% of the visitors in a survey rated these events 'good to excellent'.¹ The Tall Ships spectacle, the bicentennial celebration, and the America's Cup competitions have long passed (at least for now), yet their promotion potential as a tourist product continues. Many harbor towns also use such events as a vehicle to show off their maritime history, which in turn enhances tourism.

With their close proximity to large metropolitan centers, small harbor communities attract not only tourists and weekend visitors, but also seasonal residents, second homeowners, and retirees. This influx of temporary and permanent newcomers is generally perceived as a mixed blessing by the waterfront communities. On the one hand, visitors and new homeowners generate revenues and employment opportunities now that traditional shipping and fisheries have declined. At the same time, there is the perception that increased population, rising property values, and the proliferation of traffic have reduced the quality of life for residents on the waterfront.

With no single formula to mitigate the impacts of tourism and to accommodate the needs of residents, every town has gone its own way. How one town—Newport, Rhode Island—has achieved waterfront

renewal associated with tourism is the subject of this paper. More specifically, the recent changes on the waterfront are interpreted from the perspective of local residents, rather than visitors, city officials, or private developers. An extensive body of literature on tourism behavior and impacts has been published; the participation in and attitude toward tourism by residents is far less understood. Yet, the urban waterfront is a public resource capable of supporting a variety of uses and activities, and therefore any tourist development must be compatible with community values and objectives.

2. ISSUES ON THE NEWPORT WATERFRONT

Newport is one of New England's most unique coastal communities; it is well-known as a seaside resort, naval base and sailing center. Historically, Newport has been recognized for its assemblage of architecturally significant buildings, representing almost every style of home construction found in America. The famous mansions on Bellevue Avenue are a testimony to the gilded age which lasted from the 1850s to the 1920s. Successive stages of evolution from a center of maritime trade, to a major naval facility, and then a sailing capital of the East have left their mark on the waterfront community. A 'backwater' town for many decades after the decline of the maritime trade, changes occurred slowly at first, but then accelerated after World War II as opportunities on the waterfront were discovered. Back in the early 1970s, the departure of the Navy brought about rumors predicting economic collapse. Instead, throughout the 1970s and 1980s, the waterfront experienced a smooth transition from a defense to a tourist-oriented economy. However, while most of the critical elements of Newport's maritime fabric have survived, there is ample evidence to indicate that future changes will be much more rapid and significant than in the past.

For the past two decades, the attractiveness of the Newport waterfront has created intense pressure for a variety of development projects. The increases in tourism, recreational boating and the demand for housing are the principal causes of growth and development. The decimation of the traditional waterfront accelerated as land uses were re-assessed, emphasizing the 'best use' method of evaluating property. In practice, this meant that real estate taxes would be based on the estimated value of waterfront condos, rather than the actual value of existing shipyards or fishing piers.² Few water-dependent uses could absorb such a tax burden, and consequently were forced to leave the

inner harbor areas. Real estate speculation in this period also caused prices of homes to increase, to the point where many Newporters could no longer afford new housing on the waterfront. Commercial fishing, despite its water dependency, also struggled to remain abreast with marinas and housing projects on the harbor. The displacement of this industry from high-growth areas on the waterfront is quite apparent. A planning study in 1978 proposed a new and expanded fish pier on a large under-utilized parcel, north of the historic waterfront,³ but no solution has yet been found, while the fishing fleet continues a precarious existence on leased and temporary dock space in several locations.

Recreational boating is another important part of the Newport economy since it is not only tourists, but also residents, who own and maintain pleasure boats. The America's Cup competitions of 1977, 1980 and 1983 have made Newport a popular recreational harbor and tourist destination, and large numbers of boaters are drawn to the city annually. The result is that during major boating events and summer weekends the harbor basin is overcrowded, contributing to safety hazards, pressures on boating services, and water pollution. According to the RI Health Department, the Newport Harbor has a class SC water quality rating. This implies that no shellfishing and swimming is advised in these waters. There is a general consensus that the 950 moorings, vessel traffic, and boating facilities in the harbor basin contribute to changes in water quality. Despite management controls involving a new wastewater treatment plant and pump-out facility, boating activities are still believed to be notable contributors to water pollution.

The vitality of the Newport waterfront depends on the unimpeded flow of vehicles and pedestrians. A single, one-way thoroughfare appears inadequate and hinders normal movement of traffic, especially during the heights of the tourist season. Furthermore, the present pattern of circulation is constrained by narrow streets and densely built-up areas along the waterfront. Consequently, seasonal traffic loads on many streets reach vehicle densities far in excess of their capacity. The apparent lack of parking spaces has also contributed to the traffic problem on the waterfront. These conditions force visitors and shoppers to spend much time searching for a parking space or to occupy those intended for residents.

Currently, a series of proposals focus attention on the economic and environmental pros and cons of developing a cruiseship pier and marine terminal on Newport's shoreline. Several sites have been proposed, but none of them meet the essential requirements of parking and storage space, intermodal transportation facilities, and accessibility to the

tourist core area. Save the Bay, the state's most prominent environmental 'watch dog' organization has expressed aesthetic concerns over changes the cruiseship terminal could bring to the historic waterfront. The organization is also critical of the process that is used to decide the issues and what role the public is going to play.⁴ The Point Neighborhood Association opposes the development on the grounds that one site, Goat Island, is too close to their community and that the long-term economic effects have not yet been assessed. The Newport County Convention and Visitor Bureau, as can be expected, has endorsed the cruiseship project regardless of its location. Meanwhile, cruiseship companies and passengers are making reservations to visit Newport, with or without the pier.

3. LITERATURE REVIEW

A growing topic in tourism research concentrates on the social changes of host communities as a result of the introduction of tourism. At one end of the social interaction continuum, tourist-induced change can lead to socio-economic advances, while at the other extreme existing social disparities may be reinforced. To maximize economic benefits and minimize discontent requires direct residential participation in the tourist industry. According to Murphy,⁵ local support for tourist developments is a key factor in creating a 'hospitality atmosphere' in the destination.

Residential attitude and perception studies have identified three levels of tourism impacts depending on: (a) the type of visitor-host interaction, (b) the economic importance of tourism to the individual, and (c) the volume of tourism residents can tolerate.⁵⁻⁹ There is evidence that the type of contact between residents and tourists can have a bearing on the individual's reaction toward tourism. The frequency, duration, and intensity of interaction are important factors in determining the level of perceived contact between the two groups. In many situations, the commercial exchange is far more common than the opportunity to increase mutual understanding between host and guest.⁹ This is also true in the case of Newport.

The attitudes towards tourism have also been measured based on how important the activity is to members of the host community. Those who depend on tourism for their livelihood and those who occasionally attend tourist-oriented events will have very different opinions in accepting tourism in their town. As Murphy points out, inconvenience becomes more tolerable if some compensation is involved.⁵

Finally, the volume of activity and stage of tourist developments can affect the threshold of residential perception. Small-scale or new tourist enterprises are more readily accepted, but as numbers of visitors increase and expectations change, more stressful encounters between visitors and local residents can be expected.⁸ As will be illustrated later, the volume and the stage in the tourism cycle are crucial factors in determining residential satisfaction.

The growing awareness of the negative attributes toward tourism has led to the search for resident-visitor relationship models. One direction this search has taken is to find the threshold level between acceptance and rejection of tourism based on community attitude. Research indicates that each location has a saturation point for tourism; if that point is exceeded, the cost of tourism may outweigh the benefits.¹⁰

Another model attempts to identify the cumulative effects of tourism on the type of contact between resident and visitor: Doxey developed an irritation index for residents who experience continued tourism developments, which starts with euphoria then moves to apathy and annoyance, and ends with antagonism.¹¹ More recent research has shown that residential reaction is not always explained by increased contact or numbers of tourists. It is a more complex function related to both the characteristics of visitors and the special attributes of the sites involved.

Several efforts have been made to identify residential attitudes based on their socio-economic status.¹²⁻¹⁶ The results indicate relatively minor differences among types of residents in general, but their spatial distance from tourism centers and their economic dependence on tourism play a determining factor in the variation.

Clearly, a wide range of residential responses toward tourism has been identified in the literature. The variables most commonly mentioned by researchers are socio-economic status, economic dependence on tourism, distance from tourist areas, type of interaction with tourists, and the level of tourism in relation to total economic activity of a community. While these indicators provide some general conclusions, there are still numerous discrepancies in the findings, suggesting that more research is needed.

With respect to research on residential perception towards waterfront revitalization, few if any studies have been carried out so far. The Conservation Foundation conducted a survey of harbor communities from Virginia to Maine, assessing their experience with tourism, waterfront revitalization, and historic preservation.¹⁷ The redevelopment of the waterfront was seen by many towns as a way to diversify

their local economy. The findings emphasized three elements: community consensus on goals and objectives; coordination among interest groups; and sufficient investment capital.¹⁷ In addition, successful strategies were those that took advantage of site characteristics and marine resources locally available. Many towns attempted to balance the intense summer tourist business with economic activities that provide year-round employment. Finally, historic conservation programs were seen as a catalyst in an effort to link the past to modern uses.

A conference in the state of Washington concluded that waterfront redevelopments in small communities are likely to be based on grass-roots-level activities, volunteers, and less bureaucracy than in larger cities. Since property developers are local, their projects are more likely to be influenced by community esthetics and values. Port authorities are also seen as potential players in the revitalization of small-town waterfronts.¹⁸ Some of these characteristics, however, may not pertain to New England settlements where individualism, strong home rule, and township government still prevail. This is evident in the disagreement over the issue of preparing a harbor management plan for Newport.

More specific recommendations for the harbor of Newport were made in a publication produced by students of the Graduate Program in Community Planning and Area Development at the University of Rhode Island. A land-use survey and opinion poll of selected residents revealed the need for increased water-dependent uses, additional access to the water, and improved facilities for fishermen, as well as the harbor master.³ For the tourist industry, the group suggested a new visitor center, a parking garage, and self-guided trails through the historic district. For the most part, these recommendations have already been implemented by the town, though circulation and parking problems persist during the peak season.

Small harbor communities face very different obstacles in their attempt to redevelop the harbor front than larger cities, according to a study on three California towns.¹⁹ In small towns, there are fewer opportunities for redevelopment because of lack of space, population density, financial resources, and planning expertise. Therefore, existing use activities must be reshaped and adopted to lead to a more natural evolution than is the case in large waterfront projects¹⁹. Indeed, for Newport, massive redevelopment is not an option, and it cannot dispose of waterfront property solely on the basis of maximum profit. As will be seen later, Newport has followed a process of adaptations, using what already exists rather than rebuilding from a clean slate.

4. SURVEY AND METHODOLOGY

This study was conducted using a sample of waterfront residents in Newport, Rhode Island, in 1992. Approximately 300 questionnaires were hand-delivered to households located in neighborhoods along the city's harbor district (see Fig. 1). One hundred and sixty respondents completed and returned the survey which was carried out in mid-July, the peak tourist season in Newport. Financial and human resource limitations prevented the author from performing personal interviews with each household. Every other single-family residence was selected from both sides of the street; some were 18th century colonial homes, while others are recently built rental properties. The survey instrument contained 72 questions designed to determine residential attitudes towards both tourism and waterfront revitalization. Heads of households were asked for their opinion on the importance of, and their degree of satisfaction with, recreational activities, environmental issues, waterfront development projects, quality-of-life indicators, and simply being residents of Newport's historic waterfront.

Since the respondents were selected from a distinct part of Newport, the findings of this study cannot be generalized beyond the waterfront community. Careful control of the sample process, however, resulted in a nearly equitable distribution of male (58%) and female (42%) respondents. Further characteristics of the sample population are shown in Table 1.

A decided majority of the harbor residents have lived in their community for less than 15 years, and only 20% may be considered long-term residents. What is perhaps even more surprising is that only a quarter of the sample are Newport-born, and almost 50% have moved to the city from outside the New England region. A 1980 survey of city residents during the off-season showed that only 12% considered themselves non-residents, suggesting that many newcomers may be recent arrivals.³ The 1990 population census reports that city-wide, 46.6% of the residents were born in Rhode Island. The census also reports a per capita income of \$16 358 and a median household income of \$30 534 (in 1989 dollars). The survey revealed a median income of \$36 500, with 26.0% earning more than \$50 000 per year. Slightly over half the heads of households interviewed indicated that they were married, employed, and lived in their own homes, which is consistent with current census data. An unusually high number, however, are self-employed, but whether their enterprises are tourist related is not known. These indicators confirm what has long been predicted—that many residents on the waterfront are economically stable, experience

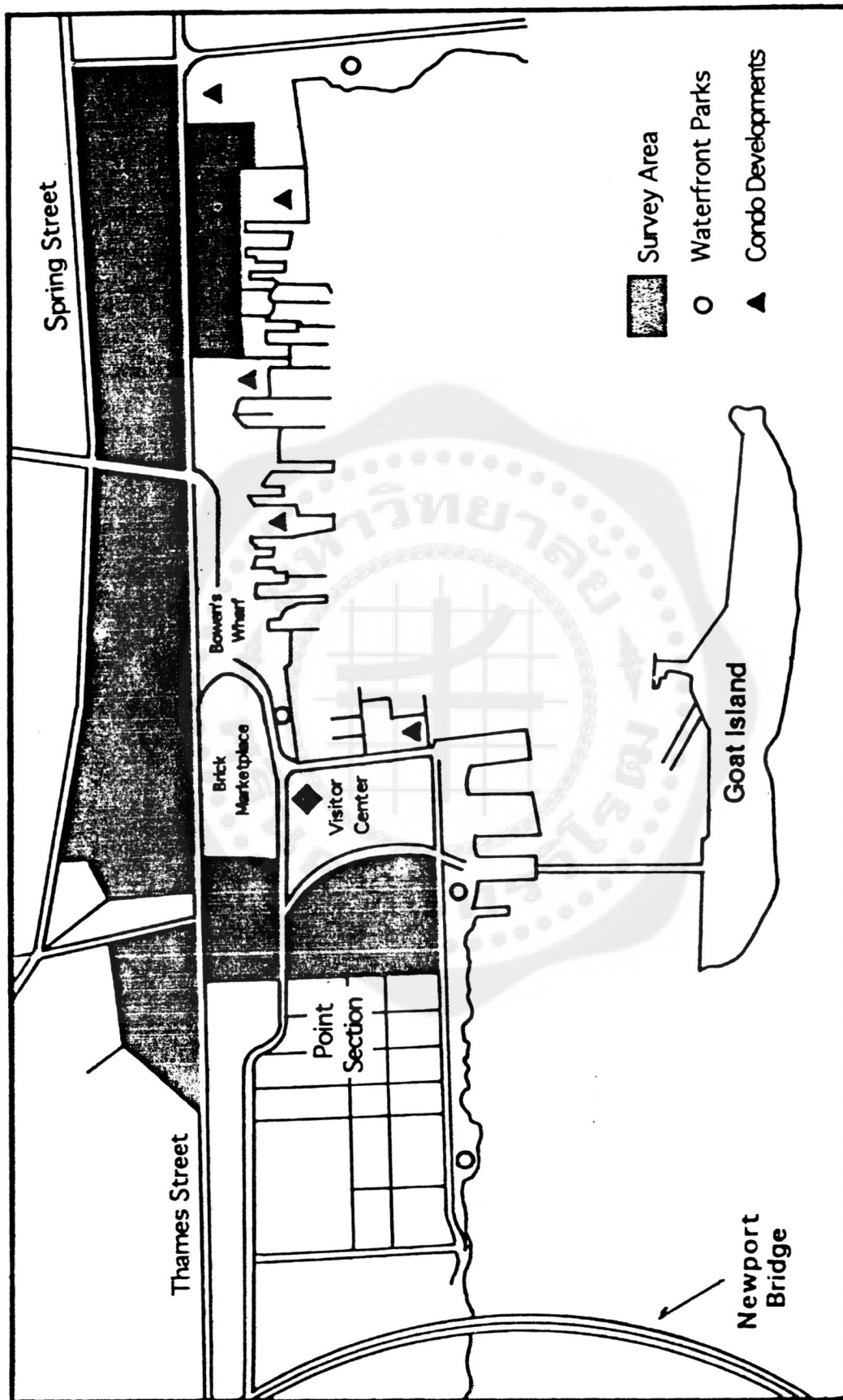


Fig. 1. Newport's waterfront and survey area.

TABLE 1
Sample population characteristics (*N* = 160)

<i>Indicators</i>	<i>%</i>	<i>Indicators</i>	<i>%</i>
Years of residence		Marital status	
< 5	41.0	Married	60.0
5–15	30.0	Single	28.0
16–30	14.0	Divorced	12.0
> 30	15.0		
Place of birth		Employment status	
City of Newport (Np.)	26.0	Employed	65.0
Rhode Island (exc. Np.)	6.0	Self-employed	21.0
New England (exc. RI)	20.0	Unemployed	5.0
Outside New England	48.0	Retired	9.0
Gross income (in \$000s)		Housing status	
5–25	34.0	Homeowner	55.0
26–50	40.0	Renter	40.0
51–100	19.0	With family	5.0
> 100	7.0		

considerable upward mobility, and have settled in this community only recently. These socio-demographic variables are used in this analysis as independent or predictor variables to measure the attitude of residents. A factorial MANOVA was utilized to determine the influence of predictor variables on people's perception of waterfront developments and tourism. For the most part, however, variables were measured using several forms of interval scaling ranging from high-negative to high-positive perceptions.

5. RESULTS AND FINDINGS

In order to test any significance among socio-demographic subgroups, twelve variables were tested by analysis of variance (factorial MANOVA). The subgroups used were: years of residence, place of birth, income, housing status, and gender of head of household (see Table 1). Of the 61 F-values for the twelve variable statements, only four were significant at the 0.05% level. There was a significant relationship between gender and the statements that 'waterfront developments are designed for all income groups' (0.026) and that

'they have increased access to the water' (0.035). Another significant relationship was found between place of birth and the statements that 'waterfront developments emphasize non-water-dependent uses' (0.051) and that 'Newport has gained from tourism' (0.049). Hence, by all accounts the number of significant differences of residents' responses by socio-demographic indicators appears to be very low.

Subsequently, the responses were analyzed using a four- and twelve-point Likert Scale. By using this method, it was possible to compute two measures: the percentage of responses agreeing with the statement, and the mean score which reflects the intensity of agreement. The latter provides a more meaningful assessment of ranking opinions than just using simple percentages. Non-responses were less than 3% of any one question in this part of the survey. When the results were tabulated, the individual survey items were grouped into two categories: those concerned with waterfront development issues, and those directly related to tourism. In this section, the two topics will be discussed separately, even though there is often a close symbiotic relationship between the two use activities.

5.1. Waterfront developments

The rankings of responses to waterfront development issues are shown in Table 2. On the whole, residents were very critical and considered public access, pollution, and equitable developments to be prominent concerns. The survey revealed that harbor residents want more access to the water (83%), but only about 10% agree that it should be implemented via parks, marinas, or housing projects. Many also agreed that more access should be given to commercial fishing interests (60%), rather than recreational boating, yet marinas are considered vital to the local economy by 73% of the respondents. As one of its priorities in the Comprehensive Land Use Plan (CLUP), the city is encouraging developers to address the need for a harbor walk in future waterfront projects.²⁰ Recently, the town council also passed an historic ordinance that requires the planning department to survey waterfront streets and right-of-ways and to prevent any development from obstructing these access points. The passage of this ordinance has been a victory for 'Friends of the Waterfront,' a citizens action group that relentlessly pursues the city in promoting shoreline access to the public.²

The harbor community also felt strongly about water pollution (75%), the current emphasis on non-water-dependent uses (69%), and

TABLE 2
Resident opinions on waterfront development issues

Rank ^a	Survey questions	Newport residents ^b	
		Mean	Percent agreeing ^c
1	More Newporters should have access to water-dependent recreation	1.48	83.2
2	Economic gains have characterized many waterfront developments	1.63	78.3
3	Newport has the most polluted harbor in RI, according to 'Save the Bay'	1.84	75.0
4	The marina industry is a vital economic activity in Newport today	1.93	73.6
5	Increasingly non-water-dependent uses are emphasized at the cost of water-dependent use	1.97	69.0
6	Access to the water is more important to commercial fishing than recreational boating	2.01	60.1
7	Newport has been most successful in preserving its maritime heritage	2.05	56.5
8	Waterfront businesses are significant employment generators for residents	2.72	35.4
9	Newport has been very successful in revitalizing its old waterfront	2.83	32.0
10	Waterfront renewal has given residents an opportunity for economic investment	2.89	29.6
11	Waterfront projects have received too much negative publicity	2.94	27.1
12	Waterfront developments have been designed to meet the needs of all income groups	3.25	17.8
13	Newport is a typical 'working' waterfront in New England	3.42	8.9
14	Waterfront development has increased access to the water through parks, marinas, and housing	3.52	10.4

^aQuestions are ranked by mean values based on a four-part rating scale, where: 1 is agree; 2 is moderately agree; 3 is moderately disagree; 4 is disagree.

^bResults represent responses from 160 waterfront residents.

^cPercent agreeing are those who answered 1 and 2 on the four-point rating scale.

the fact that too many developments are built largely for financial gain (78%). In fact, only 32% believe that Newport has been successful in revitalizing its old waterfront, particularly in the sense that it has benefited all income groups in the community (17%), and employment

opportunities for residents are not significant (65%). Less than 10% feel that Newport is still a 'typical waterfront', but the efforts to preserve the historic character of the area have met with some success (56%). Newport, after all, has been in the preservation business since 1947, when the Preservation Society of Newport was formed. It was then recognized that well-maintained heritage resources attract tourists, and enhance the town's ambience and the civic pride of residents.²¹ By the same token, 19th century industrial uses have indeed been replaced in response to new uses devoted to consumer marketplace activities.

5.2. Tourism

Residents on the Newport waterfront do not respond very favorably toward the presence of the tourist industry in their backyard (Table 3). There is a feeling by the overwhelming majority (87%) that the impacts from tourism are greater in Newport than elsewhere in the state, and that the visitors are better served by the city than are local citizens (88%). At the same time, respondents realize that the industry is subject to seasonal fluctuation (87%) and that Newport gains more from tourism than other coastal towns in Rhode Island (67%). Judging from these mixed responses, it is not surprising to find that few residents are in favor of promoting tourism during the off-season

TABLE 3
Resident opinions toward tourism

Rank	Survey questions	Newport residents ^a	
		Mean	Percent agreeing
1	Newport is catering more toward tourism than to its local residents	1.38	88.2
2	Newport experiences greater impacts from tourism than any other town in Rhode Island	1.41	87.2
3	Waterfront developments are very much subject to the economic and seasonal fluctuation of tourism	1.67	86.9
4	Newport gains more from tourism than any other town in Rhode Island	2.12	67.0
5	Waterfront developments that encourage tourism during the off-season are a good idea	2.79	37.8
6	Most waterfront projects are well designed for both tourists and local users	3.33	13.0

^a Results represent responses from 154 waterfront residents.

TABLE 4
Participation in tourist-related events

<i>Rank^a</i>	<i>Events/activities</i>	<i>Mean</i>	<i>S.D.</i>
1	Visit historic places	5.6	3.60
2	Pleasure sailing on the bay	5.7	3.92
3	Gift/souvenir shopping	6.1	3.76
4	Jazz/music festival	6.3	3.22
5	Competitive boat races	6.9	3.12
6	International boat show	7.1	3.47
7	Recreational fishing	7.7	3.95
8	General tourist entertainment	7.9	3.09

^aResponses are ranked by the mean value based on a twelve-point rating scale, where 1 represents the highest, and 12 the lowest priority.

(37%). As one respondent put it: 'give us a break; that's the only time we can enjoy the town for ourselves'. Yet the city is trying to 'restructure the [tourist] industry to meet the community's needs on a year-round basis... while at the same time minimizing the burdens on the municipal infrastructure'.²⁰

Despite this rather gloomy perception of the industry, seemingly at odds with the attitudes of local authorities, many residents are still actively participating in tourist-related events. A semantic differential scale consisting of a set of bipolar adjectives (highest and lowest priority) was used to measure the participation rate for a variety of indicators (Table 4).

One of the benefits of living in a visitor destination area is to take advantage of the site opportunities and local resources. Other factors, such as easy access, available time and costs also play a role in the rate of participation in tourist events. For those who are employed or self-employed in the harbor area (36%), and those who own a pleasure boat (28%), access to recreational amenities may be less of a problem. Another group may depend more on friends, relatives, or business acquaintances in the tourist and boating industry in order to get involved. This is particularly true for cost-intensive, water-dependent activities such as recreational fishing, racing or sailing. The highest priority was given to 'visiting historic places,' 'sailing the Bay,' and 'shopping' activities which can be carried out anytime and are easily accessible. These factors may, in part, have contributed to the large standard deviation indicating considerable variability from the mean.

Concentrating tourist facilities in a core area is a common planning

TABLE 5
In the summer, do tourist activities affect the privacy
of your residence?

<i>Indicators</i>	<i>Responses^a</i>	<i>Percentages</i>
Often	94	60.2
Sometimes	34	21.8
Nights only	33	21.1
During special events	22	14.1
Days only	16	10.2
Never	6	3.8

^aBased on multiple responses of 156 interviews.

strategy of popular visitor destinations. Newport fits that model; it has a distinct tourist zone around the harbor which is gradually expanding into the 'lived in' neighborhoods as the tourist industry expands. One of the consequences of the concentration strategy is the lack of privacy for residents who live in the tourist zone. A significant number of households (61%) confirmed that noise, vandalism, and disorderly behavior have become commonplace, more so at night than during the day (Table 5).

Clearly, residents have become sensitive to the volume of tourists, and some stress has become inevitable from activities which require inhabitants to share their living environment with strangers. However, the strongest expression of dissatisfaction is related to congestion and high density; more specifically, to traffic and parking (85%) and pedestrians venturing into neighborhoods (62%). This condition may be partly a function of poor siting of parking lots in residential areas, inadequate signage, and numerous narrow, one-way streets fulfilling a role for which they were not designed. To the tourists, the crowds and parking problems may be viewed as an inevitable consequence associated with being able to visit Newport. But for residents, it is an intrusion and irritant that has affected their lives for more than a decade. Fifteen years ago, an opinion poll indicated that serious difficulties were experienced by users of the waterfront resulting from traffic (75%), parking (82%), and overcrowding (51%).³ The Comprehensive Land Use Plan of 1991 points out that 'while extensive marketing of Newport as a tourist destination brought renewed economic vigor to the city, it was not without its problems, bringing increased traffic, parking congestion and noise to the waterfront neighborhoods.'²⁰

The plan suggests several long-term remedies, among them the

TABLE 6

What is your opinion about parking on the waterfront for residents and visitors?

<i>Indicators</i>	<i>Responses^a</i>		<i>Percentage</i>	
	<i>Residents (n)</i>	<i>Visitors (n)</i>	<i>Residents</i>	<i>Visitors</i>
Parking is adequate	15	19	9.6	12.2
Parking has improved	11	17	7.0	10.9
Parking has worsened	131	120	83.4	76.9

^aBased on multiple responses of 145 interviews.

development of a traffic circulation and parking system, a seasonal shuttle service to minimize tourist use of automobiles, and a city-wide resident sticker parking program.²⁰ Meanwhile, the recently completed Gateway Transportation Center has provided for a 600-car parking garage, as well as bus and taxi terminals. These measures, however, have as yet not significantly affected the opinion of residents (Table 6).

The tourist development of neighborhoods near the waterfront may also affect the quality of housing for permanent residents. It is generally believed that the revitalization of the harbor shoreline has increased the construction of housing for specific income groups. Certainly, during the building boom of the 1980s, real estate speculation and condominium conversions caused housing prices to rise until the average Newporter could no longer afford to buy a home on the waterfront. At that point, many 'outsiders' became attracted to Newport, seeking a second vacation or retirement home. These factors greatly influenced the 'gentrification' of residential areas on Spring and Thames Streets. According to the survey, only 23% believe that the housing supply meets the demand, while 57% indicate that housing demands exceed the supply on the waterfront. A breakdown by income group is shown in Table 7.

The combination of waterfront location and the development of

TABLE 7
Perceived housing supply on the waterfront (n)

<i>Income group</i>	<i>Inadequate</i>	<i>Adequate</i>	<i>Excessive</i>
High	10	42	48
Medium	45	48	7
Low	66	29	5

TABLE 8

What are the impacts from the transformation of residences into tourist-oriented commercial outlets on Spring Street and Thames Street?

<i>Perceived changes</i>	<i>Responses^a</i>	<i>Percent agreeing</i>
Causes traffic and parking problems	131	85.0
Increases pedestrian traffic (tourists)	104	67.5
Revitalizes dilapidated properties	82	53.2
Increases the value of property	64	41.5
Promotes new investments	52	33.8
Results in many zoning changes	41	26.6
Decreases the value of property	13	8.4

^aBased on multiple responses of 154 interviews.

tourism had some other effects on the nature of nearby communities. While many activities on Newport's harborfront compete for very limited space, some believe that 'in many ways these competitive uses are mutually supportive. Retail establishments, recreational facilities, and public services intermix with residential uses... creating a seasonal cacophony of color and sound'.²² This juxtaposition of land uses, however, is perceived very differently by those who live in these transitional areas. Respondents were asked about the infiltration of commercial outlets, bed & breakfast establishments and other tourist developments into residential areas (Table 8). Again, the most prominent impacts noted were traffic and parking problems, but some also felt that the changes in land use had triggered renewal activities (53%), increased property values (41%), and promoted new investments (33%) in their neighborhoods.

The value of property may change as a result of many other factors, some of which are internal, while others are external with respect to neighborhoods. For example, the most frequent reasons mentioned in the survey were waterfront location and physical upgrading, followed by architectural significance (Table 9). Clearly, residents have long realized the potential in repairing and upgrading the remnants of their heritage, particularly those related to the early maritime history. It is also well known that tourism thrives on the unusual, which speaks of another time or a different way of life. Thus, for the past two decades, residents have been encouraged by the Newport Restoration Foundation to improve their housing stock through preservation and restoration. The economic benefits derived from this effort have not only empowered homeowners, but also helped Newport into the mainstream of tourism.²¹

TABLE 9
What factors have increased the value of your property?

<i>Causes</i>	<i>Respondents^a</i>	<i>Percentage</i>
Waterfront location	66	42.6
Physical upgrading and repairs	53	34.2
Historic/architectural significance	47	30.3
Urban renewal process	38	24.5

^aBased on multiple responses of 155 interviews.

6. MANAGING THE WATERFRONT

Up to this point, the issues on the harbor and the local perception toward tourism and waterfront developments have been assessed. Two questions need to be asked: 'How can these observations be integrated into a harbor management plan?' and 'How can residents communicate their concerns to city decision makers?' This section will briefly explore the debate over harbor planning in Newport and the mandatory public participation in the planning and management process.

6.1. Planning for the harbor

Four decades ago the local business community and the Newport Redevelopment Agency began formulating plans for the renewal of abandoned Navy facilities, a neglected business district, and outdated waterfront uses. A long and sometimes difficult management process in the 1950s and 1960s, accompanied by key investments, set the stage for rapid development in subsequent decades. A successful public-private partnership gradually evolved, spearheaded by a number of projects that benefited the tourist industry.²³ They included the Brick Marketplace development, Bowen's Wharf retail complex, the Historic Hill Rehabilitation Project, and a number of marina and condominium developments. The completion of the Newport Bridge in 1969 increased the volume of traffic, and hence contributed to the economic revitalization of the waterfront renewal area at that time. In 1970, the Sheraton Islander Hotel and Conference Center opened on Goat Island, along with the Treadway Inn in the center of the tourist district. Fort Adams opened as a state park in 1973, and the International Boat Show found a permanent home, also in 1973, at one of the abandoned boatyards.

The most recent project, completed in 1991, is the Gateway–Marriott Hotel–Convention Center complex, strategically located at the northern entrance of the waterfront. This has enabled Newport to attract large conventions in normally slow winter months, and an estimated one million visitors are expected to pass through the ‘Gateway’ Visitor Information Center each year.²⁴

In the absence of a comprehensive tourism plan, the 1980s substantially threatened the city’s ability to protect and manage its recreational resources. Environmentally rich tracts of shoreline were developed for residential purposes, creating concomitant problems for water quality and public access. Despite existing state and local policies designed to protect coastal resources, litigation under outdated zoning regulations have undermined the city’s ability to control the impacts along the waterfront. On the economic front, the fiscal crisis of the 1990s has made it unlikely that acquisitions of open space will be made for perpetual protection and passive creation.²⁰ Clearly, the time has come for Newport to develop a comprehensive waterfront management plan to control not only land use developments, but marine activities as well.

At the city government level, however, there appears to be continued resistance to the preparation of a plan for the harbor, for fear that its power of home rule might be jeopardized. In fact, the city council has long taken the position that it is able to self-regulate its waterfront and is under no obligation to draft a harbor management plan. The town planner has argued that a plan for the harbor is actually in place, referring to a document entitled ‘Newport Harbor Rules and Regulations’ (personal communication, March 1994). Back in 1969 the city actually created its own Waterfront Commission which issued its first regulations in 1974, subsequently published for public use in 1980.²⁵ This action, it is widely believed, provides sufficient guidance in the harbor basin. In fact, the harbor master and EPA are of the opinion that the harbor is ‘well run and has a standard for others to imitate’.²⁶

It should be noted, however, that Rhode Island’s Coastal Resources Management Council (CRMC), the state’s primary agency which governs the use of coastal waters, defines harbor management far more broadly than just the regulation of watercrafts and mooring facilities. According to CRMC’s *Guidelines for the Development of Municipal Harbor Management Plans*, the purpose is to: (1) provide a comprehensive, long-term evaluation of all harbor activities; (2) set up a monitoring procedure for harbor programs, ordinances, and regulations; and (3) establish a management authority that reviews program consistency and responsibilities.²⁷ Likewise, the Comprehensive Land Use Plan urges that ‘the idea of a management plan for the harbor is a

significant one', and that it 'must be done with sensitivity to the social fabric, environmental integrity, and historic value of the area'.²⁰

The recent adoption of this document is clear evidence of a strong commitment on the part of the citizens of Newport to shape the destiny of their city. In fact, during the regular monthly meetings for the Comprehensive Plan, a 'Waterfront Forum' was held which raised issues and discussions relevant to the waterfront. Six panels addressing tourism, recreation, fishing, historic, environmental and regulatory aspects of the harbor gave presentations at a well-attended public meeting.²⁰ Today, there is growing sentiment toward having a harbor management plan prepared. The former chairman of the Comprehensive Plan, the Mayor of Newport, several newly elected city council members, and the head of the Newport Waterfront Commission all agree that a separate plan for the waterfront area is needed.²⁶ The Waterfront Commission could, in fact, play the role of an umbrella committee to coordinate the planning process while data from the Comprehensive Land Use Plan can provide part of the resource inventory. Current efforts of the city and CRMC to guide rapid growth on the waterfront, and at the same time control tourism and meet the needs of residents, must be woven together into a plan which clearly articulates strategies to achieve these goals.

6.2. Public participation

It is most significant for waterfront residents to participate fully in the preparation of the city's harbor management plan. One of the goals of CRMC's guidelines for harbor planning is to solicit the input and concerns of interested and affected sentiments of the public. In fact, the text of the guidelines states that 'CRMC requires that the public be made an integral part of the harbor planning process'.²⁷ As such, active participation goes beyond the traditional practice of conducting public hearings, information sessions, or reviewing proposals.

One of the first steps in participatory planning is to establish working groups or committees which will identify the issues, objectives, and long-term policies, and communicate their concerns to state and local regulatory authorities. Because each harbor is unique, there is no 'set' make-up for such groups; however, it is important to incorporate every legitimate entity so as to minimize conflict and promote community acceptance later on. In general, potential candidates for participation include members of the local business community, water-dependent industries, recreational users, environmental groups and, of course, waterfront residents. In identifying the issues, waterfront residents will

have the opportunity to voice their concerns as mentioned earlier—lack of waterfront access, parking problems, decrease in water-dependent uses, too many developments built for financial gains, limited employment opportunities on the waterfront, lack of privacy in neighborhoods, and the stress caused by the volume of seasonal visitors.

After identifying the issues of concern, committees, during subsequent meetings, will begin to outline goals and objectives. During these meetings, which must be open to the public, the committees will set up their own standards and procedures for developing their plan of action. Yet it is important to remember that when setting up goals, the guidelines of the Harbor Management Commission and state regulatory authorities will, in large measure, determine what committees can and cannot do. Ultimately, the committees must formulate policies and recommendations that will direct long-term activities and must reflect the community's future vision of the waterfront. In this process, the committees are responsible for ensuring that the knowledge of its work be carried to the urban community as a whole. To this end, the Newport action group—Friends of the Waterfront—could serve as a vehicle to ensure continued involvement of all residents. They have been concerned with the waterfront for several years, participating in regular town council meetings and in educating the public through a newsletter on current waterfront activities.

7. DISCUSSION AND CONCLUSION

The results of this analysis suggest that support for tourism and waterfront renewal in Newport is currently not very strong among its residents. Considering the fact that nearly 4 million visitors will arrive this year, that a cruiseship terminal is anticipated, and that no comprehensive management plan is in place, residents have reasons to be pessimistic. As research has shown, residential perception of local issues is a function of the visitor-resident ratio and the rate of physical change in the destination. As the ratio increases and change accelerates, perceptions tend to become more negative, and a negative image will reduce the destination's attractiveness. The implications of the findings in this study are well illustrated in what Doxey,¹¹ Butler,²⁸ and D'Amore²⁹ call the life cycle of tourist destinations. Many small harbor communities where tourism has become the predominant economic force have had similar experiences.^{17,18}

Initially, there is the exploration stage when Newport embraced tourism as a suitable alternative for the departure of the defense

industry. As the number of tourists increased in the 1970s, the city responded by providing limited facilities—this is the involvement stage. As the process continues and visitor numbers grow significantly, the development stage may be reached. This was the time when Newport built the Brick Marketplace, Bowen's Wharf retail complex, and numerous condominiums on the waterfront. By the mid 1980s, the tourist–host ratio changed to the point where residents became more marginalized, resulting in less contact with tourists. For example, stores and services on the waterfront changed their function and, as such, became less frequented by local people.

Finally, the tourist destination enters the so-called consolidation and stagnation stages. The residents in Newport began to experience a series of negative impacts (lack of parking, affordable housing and privacy; increased traffic, environmental deterioration, and non-water-dependent uses on the waterfront). Faced with the problem of overcapacity that occurs at the stagnation stage of the life cycle, annoyance turns to antagonism. The tourists being attracted now include those of the 'organized mass market.' This year an estimated 45 cruise ships are expected to call on Newport and, according to last year's figures, 7239 motor coaches arrived in the city.²⁴ City officials have responded to the increase of tourism by providing more infrastructure, rather than limit growth. The negative residential perception documented in this study is not only directed toward the visitors, but also to those who serve the tourist industry, particularly if they are outsiders, such as developers and investors. The changing pattern of community attitude has also been demonstrated by a content analysis of Newport's daily newspaper (Table 10).

Accordingly, in 1970 the issue was not whether or not tourism is desirable, but rather how quickly it could be developed. By 1980 most

TABLE 10
Community attitude based on newspaper coverage (articles)

<i>Issues</i>	1975		1980		1985	
	<i>Positive</i>	<i>Negative</i>	<i>Positive</i>	<i>Negative</i>	<i>Positive</i>	<i>Negative</i>
Events	103	1	65	8	52	0
Tourism	83	3	33	56	46	10
Services	12	0	3	4	6	1
Community development	18	1	3	2	14	7

Source: Ref. 22.

articles were critical of tourism as the social costs of developing the industry appeared to outweigh the benefits. Similar impacts to those discovered in this analysis were the focus of numerous newspaper articles. By 1984 tourism had become part of Newport's lifestyle, and while the threat of overdevelopment has remained, much attention is now given to regulation and control rather than appropriate sustainable growth.

What can be learned from the Newport experience that has relevance to other waterfront communities? In seeking to balance community aspirations with tourism on the waterfront, municipalities will benefit from a citizen-based planning approach. Small town governments are less bureaucratic, and development projects are likely to be grass-roots activities influenced by community values. As such, participatory planning is a task-oriented strategy aimed at documenting citizen attitudes and priorities and working toward community-wide agreements on the 'best' solutions to common problems. The success of the process depends on the ability of residents and volunteers to work on a variety of issues (economic diversification rather than tourism alone) with the notion of capacity-building and links to the public-at-large.

Many of the problems created in Newport, as well as other towns, are due to excessive visitor densities, traffic congestion, and centrality created by the waterfront. The social carrying capacity guidelines advocated by D'Amore²⁹ have a great deal of merit for small communities involved in waterfront revitalization. They are briefly summarized here:

1. Coastal resources planning must be based on the goals and needs of local communities.
2. Residents must be shown the socio-economic significance of growth and development on the waterfront.
3. The promotion of local attractions and amenities should be subject to the people's endorsement.
4. More local resources and skills should be invested on the grounds that it will permit greater local control.
5. Public and private efforts should be coordinated in order to maintain the quality of recreation.
6. There should be broad-based, community participation in tourist events and activities. There are efforts underway by the Convention and Visitor Bureau to promote 'cultural tourism' so that culture and art groups are able to realize their potential from tourism.
7. Finally, residents must be consulted early in the planning

process so as to have the opportunity to mitigate local growth problems.

By considering these guidelines as a conceptual framework for social planning, it can reduce visitor-resident tensions. In coastal communities where harbor plans are developed, participants are urged to address the community's social carrying capacity in order to make the needs of residents more compatible with development objectives designed for visitors.

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The Eco-tourism Establishment in a Small Island : Ko Taen

Anucha Leksakundilok

Chaiyuth Klinsukont

Abstract

Eco-tourism is a pattern of sustainable tourism development, which the community participation play an important role. The meaning of participation in this regard is not only people getting involved in or getting some benefit from the tourism activities, but also they can control the tourism by a good management. Ko Taen is one of the island closed to Ko Samui in the Gulf of Thailand. It is a small island of relevant bio-diversity, both onland and coastal area, including a group of inhabitants. Ko Taen has acted as a tourist spot for Ko Samui's tourists who love diving and visiting a quiet and peaceful place. Most of tourists have come to Ko Taen by tour operators, just for having lunch on the island since their limiting of time. Only few would like to walk and watching around the natural beauty of the island. The local inhabitants understood that if they let the tourism growing by itself, Ko Taen will face the bad situation of the environmental problems soon and they will lose its identity. So they have established the Ko Taen Conservation Club to conserve the unity of people and to control the island's tourism to be a real eco-tourism. Today, it is just a starting point of them. In parrarel of this activity TISTR (Thailand Institute of Scientific and Technological Research) supported by OEPP (Office of Environmental Policy and Planning) is studying and establishing a Natural Bird Park to increase the number of natural components and rehabilitation of the ex-situ bio-diversity. These will be the main supporting activities of Ko Taen eco-tourism.

1. Eco-tourism

Eco-tourism is a form of sustainable tourism in term of management dimension. It's defined as **"The sustainable tourism is an identity natural areas including any related**

cultural and historical components in this area, which geared to raise the ecological and environmental awareness of related people or units by mean of joined learning process under the community participatory management".

The Key principles which are fundamental of eco-tourism (in Thailand) should consist of

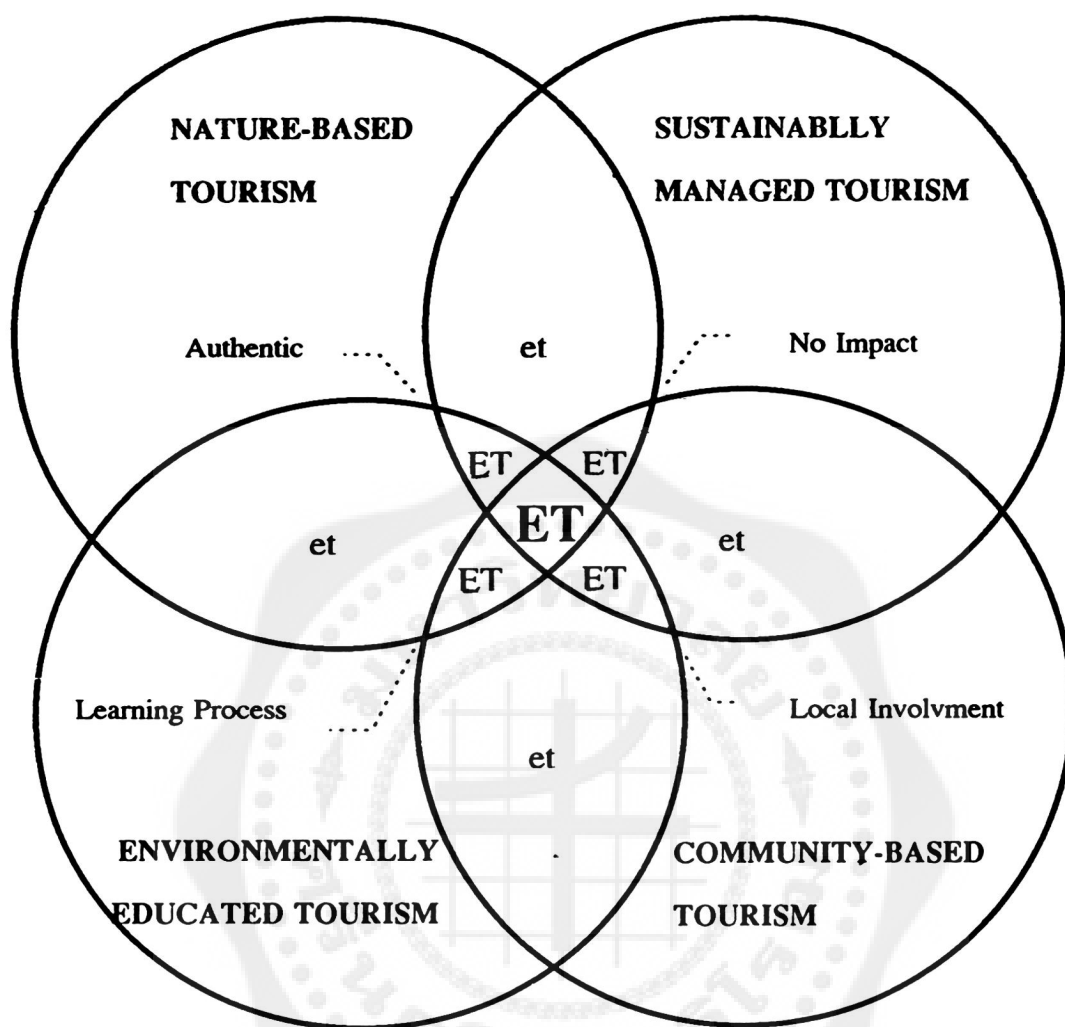
1) The tourism should be occurred in the significant natural setting or nature-based attraction associated with the cultural and historical components in this area.

2) Educational and interpretive elements should be an important tools in creating and enjoyable and meaningful eco-tourism experience. Eco-tourism education and interpretation lead people to develop their knowledge, awareness and appreciation of environment. It should influence tourist, operator, community and government officer by the way of join learning process.

3) The tourism management should be sustainably. The sustainability of ecological and environment in the natural setting should be undertaken. The carrying capacity, the good quality of tourism, the low impact on environmental and the conservation of resources are essential to the management (included planning and development).

4) Local Community should has been involved in the tourism process such as planning operating, servicing and also getting the benefit from tourism. Local community not only control the tourism but also improves both knowledge, awareness and quality of life of tourists and themselves.

Figure 1 illustrates the basic principles of eco-tourism. The absolute eco-tourism should have all 4 components in the tourism process (symbolic by dark ET). If some components were missing the decree of eco-tourism would be reduced (symbolic by ET and et.). This system set for compromise some different point of view of diversified idea. Infact we can say that, the lower degree of eco-tourism may be called other form of tourism.



- Remarks :
1. Modified from Ralf Buckley 1994
 2. ET, ET, et indicate degree of extent of Eco-tourism

Figure 1 Major Principles of Eco-Tourism

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However, when we focus on a new idea of tourism the 4th components, the local community participation, is rapidly play an important role of the eco-tourism. The meaning of participation in this regard is not only the people getting involved in or getting some benefit from the tourism activities, but also they can control the tourism by a good management.

In general, according to the social and economic development policy setting, tourism should be one of the major sector that generater income to the local people. But in the sense of eco-tourism the people should also have chance to transfer the information, to participate in the operation and, as the goal, to control the tourism in the area. By this way the local people should also upgrade their knowledge and responsibility.

2. Ko Taen : a natural island settlement

Ko Taen is one of the island closed to Ko Samui in the gulf of Thailand (**Figure 2**). It is a small island, about 7.5 sq.km., of relevant both physically feature and bio-diversity. Its topographic feature consists of 3 hills covered with the dry evergreen forest mixed with coconut plantation. Between the hills there are plain areas, covered with coconut plantation and a group of house of inhabitants. Parallel to the coastline, there are coral reefs almost around the island. Along the coastal area there are diferent kinds of coastline such as sandy beaches, muddy beaches, rocky beaches, pebbly beaches, cliff, mangrove forest, and beach forest.

Ko Taen's inhabitants were decreased from 200 households to 30 households in the last 30 years, since the limited of land and the fast developed of Ko Samui and main land. Being hirelings is the main occupation of most people which are 11 households, while 5 earn their living on coconut plantation, 3 do fishing and operating bungalow. Only few households have earned a high income.

The most inhabitants settle on the east coast of the island as shown in **Figure 3**.

Ecological features of Ko Taen has shown the significant bio-diversity. There are no less than 379 species in 107 families of plants. 109 species, 53 family and 20 orders of wildlife

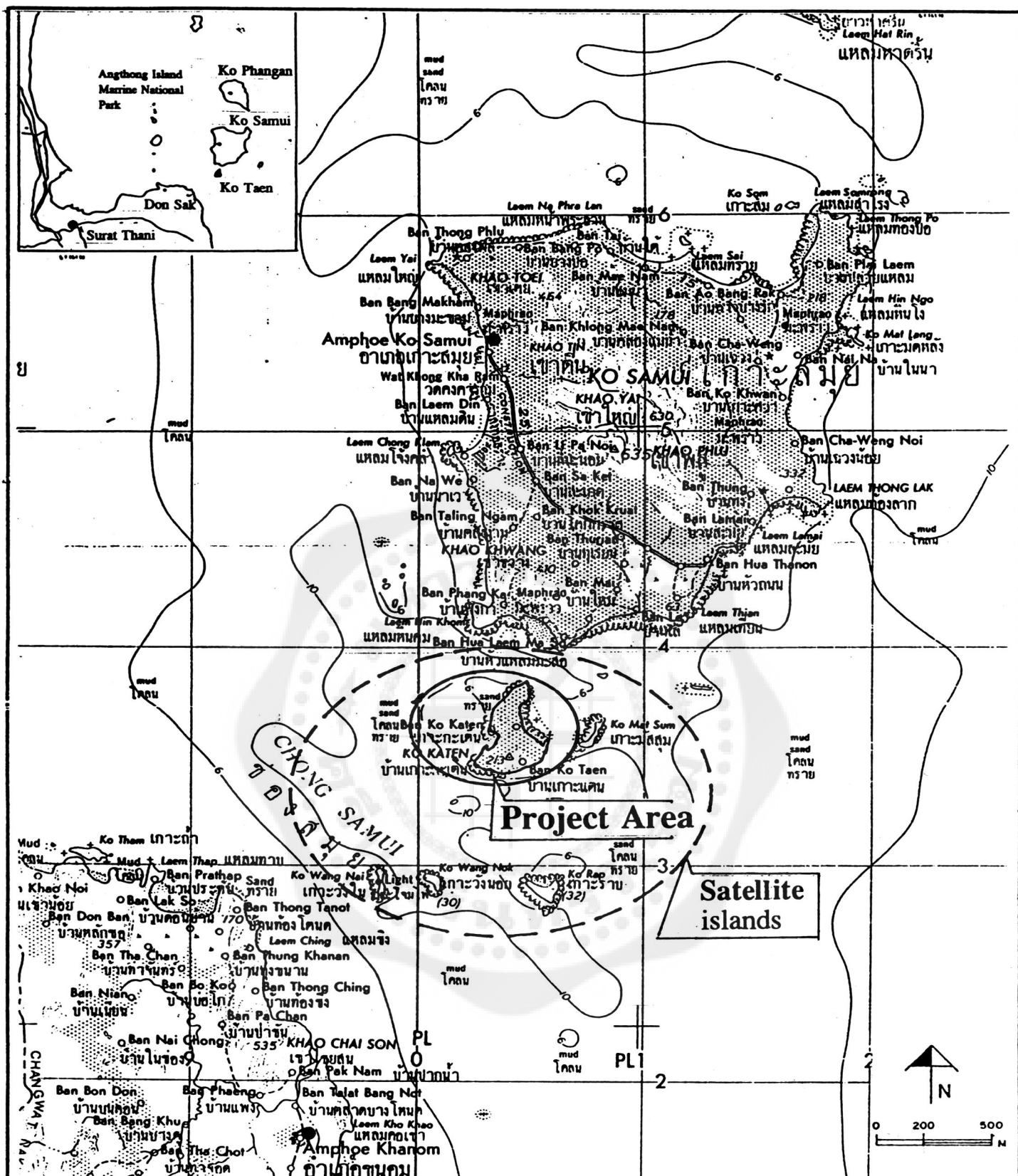


Figure 2 Location of Ko Taen

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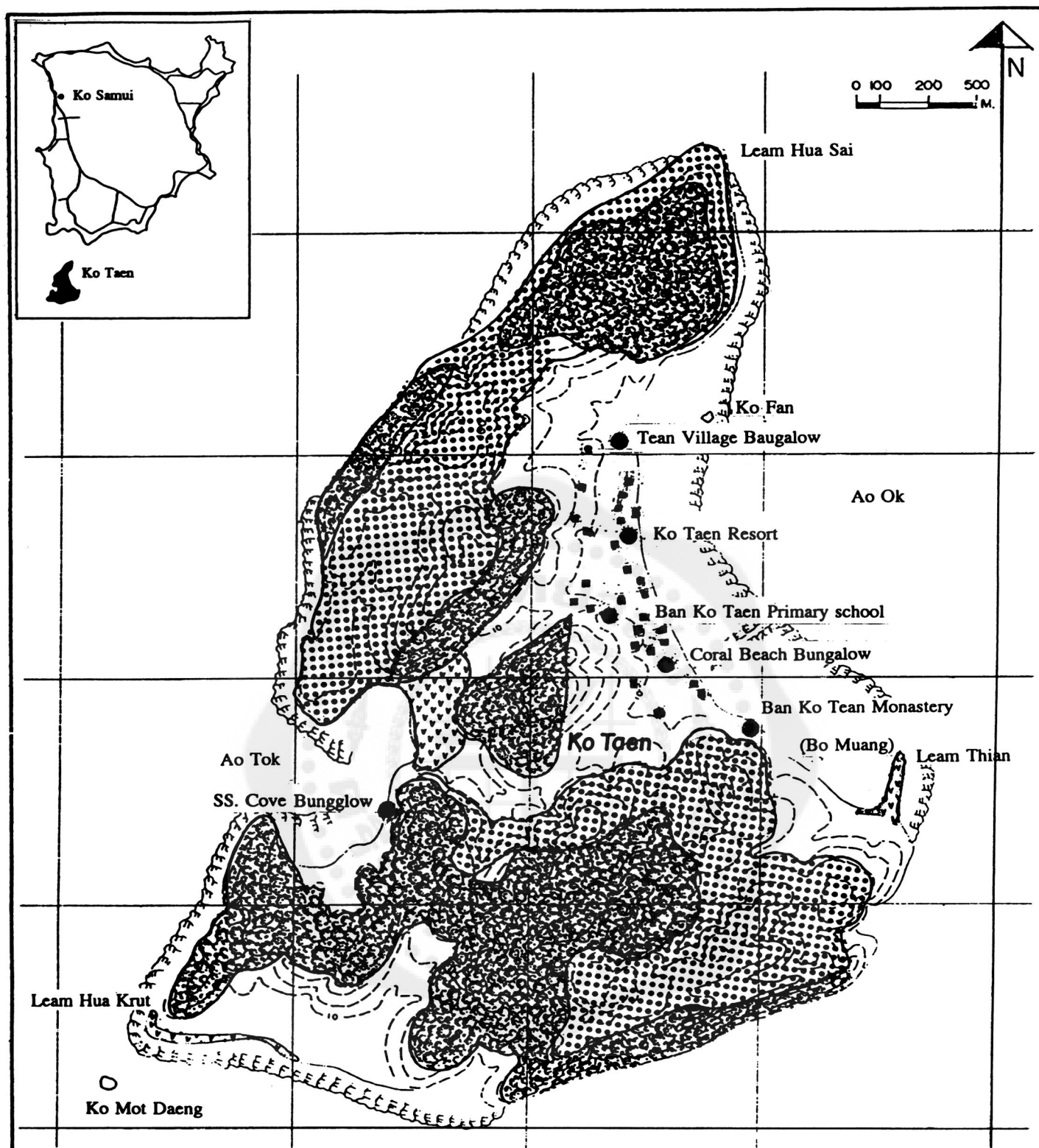
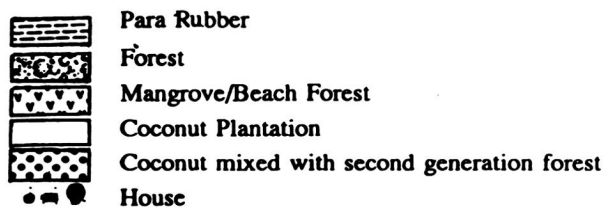


Figure 3 Land use of Ko Taen, 1995



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which are 10 species of mammals, 74 species of birds, 6 species of amphibians and 19 species of reptiles. By the suggestion of TISTR Ko Taen should increase the numbers of plants especially the forest fruit trees in order to be the food supply for mammals and birds. To establish a birds breeding station and increase number of bird by making the appropriate atmosphere of the island for the dwelling of birds will achieve the rehabilitation of ecological feature and conserve the ex-situ biodiversity. This will establish the entire island of Ko Taen to be the natural bird park (according to the Rehabilitation and Ex-situ Conservation of Biodiversity Project : Natural Bird Park, TISTR, entrusted by Office of Environmental Policy and Planning, 1996).

3. Ko Taen Tourism

Ko Taen is a natural resource with moderate abundance and beauty, that located nearest to Ko Samui. It has the nature of corals, forests, rocky beaches, pebbly beaches, cliffs and folk way of life, which are tourist attractions. Tourists regularly transferred from Ko Samui, and this causes more expansion on services and tourism business of Ko Taen.

There are 12 tourist attractions (including satellite areas), 4 potentials nature study trail as shown in **Figure 4**, and the activities that are capable for touring, are namely diving to view corals, bird-watching, studying local plants and wildlife, forest hiking, touring mangrove forest, studying the features of pebbly beach, rocky beach and coastal cliff, studying the folk way of life and agriculture, seacoast fishing, etc. However, since tourism on Ko Taen is still in a small scale of travelling to and from within one day in order to dive and stay only for a short time, the existing services thus remain in a small scale, too. For example, there are totally 16 boats for services and 4 establishments of bungalows (Taen Village Bungalow, Ko Taen Resort, Coral Beach Bungalow, S.S. Cove Bungalow), serving 27 tourist rooms.

The tourism market is in low level because the number of over-night tourists is small, but almost all these tourist groups stop to lunch at Ko Taen. It is estimated that visitors to Ko Taen are generally about 50 person/day or 250 person/week (there may be no visitor at all averagely about 2 days in each week), or it may be estimated that tourists are annually 9,000 persons (in 9 months included with about 500 persons from festival long week-end).

Nevertheless, this statistical expectation is not included with the scuba-divers who come by diving-boats and do not disembark on Ko Taen, which assumed about 2,000 person/year.

Four households of Ko Taen inhabitants earn direct income from tourism. They operate the bungalows and serve lunch for tourists. Almost all of the rest are earn both direct and indirect income from tourism, which include fishing, hireling and boat driving. It was estimated that the income generated in Ko Taen was about 1.5 million baht in the year 1995.

Even the tourists of Ko Taen are the nature lover, but the management of tourism is still conventional style. Most of tourist coming to Ko Taen by tour operators want to have diving in the sea, having lunch on land or on boat and getting back in the same day. Some of them come by their own and stay for 3-5 days on average for having a quiet place, snorkelling and walking into the forest. Therefore, taking these into consideration, it can be said that Ko Taen still lack of a good management in term of eco-tourism.

4. Eco-tourism establishment in Ko Taen

From the Master Plan suggested by TISTR, under the discussion to the local people, Ko Taen should set up their own tourism development strategy.

Ko Taen tourism should be mainly promoted on the pattern of nature tourism or eco-tourism, by providing with a limited number, volume and area of tourist services. The conservation of Ko Taen is the principle target of the project, but tourism promotion is to introduce the conservation in making benefit for local people and community, including to render the conservation as the sources of nature study and consciousness creation for visitors. Thus tourism framework are designated as followed :

1) Tourism managing scenario

Ko Taen is one of the resources area for eco-tourism that has a feature of fertile natural island with rural activities correlated to the consonant eco-tourism, which is in accordance

with the study on nature and local culture. There are strong people organizations in supervising the nature, ecological system and various activities within the island.

2) Ko Taen tourism development policy

- (1) Determining on eco-tourism development.
- (2) Making the use of existing natural condition, including the rehabilitation and ex-situ conservation of bio-diversity.
- (3) Rendering the importance upon the management of people organizations which have been properly and effectively set up.
- (4) Demarcating the appropriate areas, routes and activities for tourism, and within the supervision of local people organizations.

3) Overall management guidelines

- (1) Setting up or allocating the task of people organizations in order to supervise the entire system of tourism.
- (2) Providing the trails for eco-tourism, including diverse activity areas, such as bird view points, animal view points, coral viewing dives, plant studying, etc. (**Figure 5**)
- (3) Supporting people to serve tourism systematically, thoroughly and fairly, such as services on boating, tour guiding, resting places and feasting, etc. The people organization should be the centre for acting.
- (4) Improving the services in order to be on the standard of calmly semi-natural lodging without any entertainment place.
- (5) Creating natural interpreting in various tourism attractions, such as plant name signs, environmental condition signs, direction signs, etc.
- (6) Arranging the nature study that comprises tourism, such as a touring handbook, wildlife names, community cultural characteristics, natural games, etc.
- (7) Arranging the trainings on skill and knowledge in rendering all kinds of tourism services.
- (8) Improving the infrastructure ie. transportation of inner passage-way, electricity, consumption water, garbage disposal and sanitation.
- (9) Establish the Ko Taen Natural Study and Community Centre.

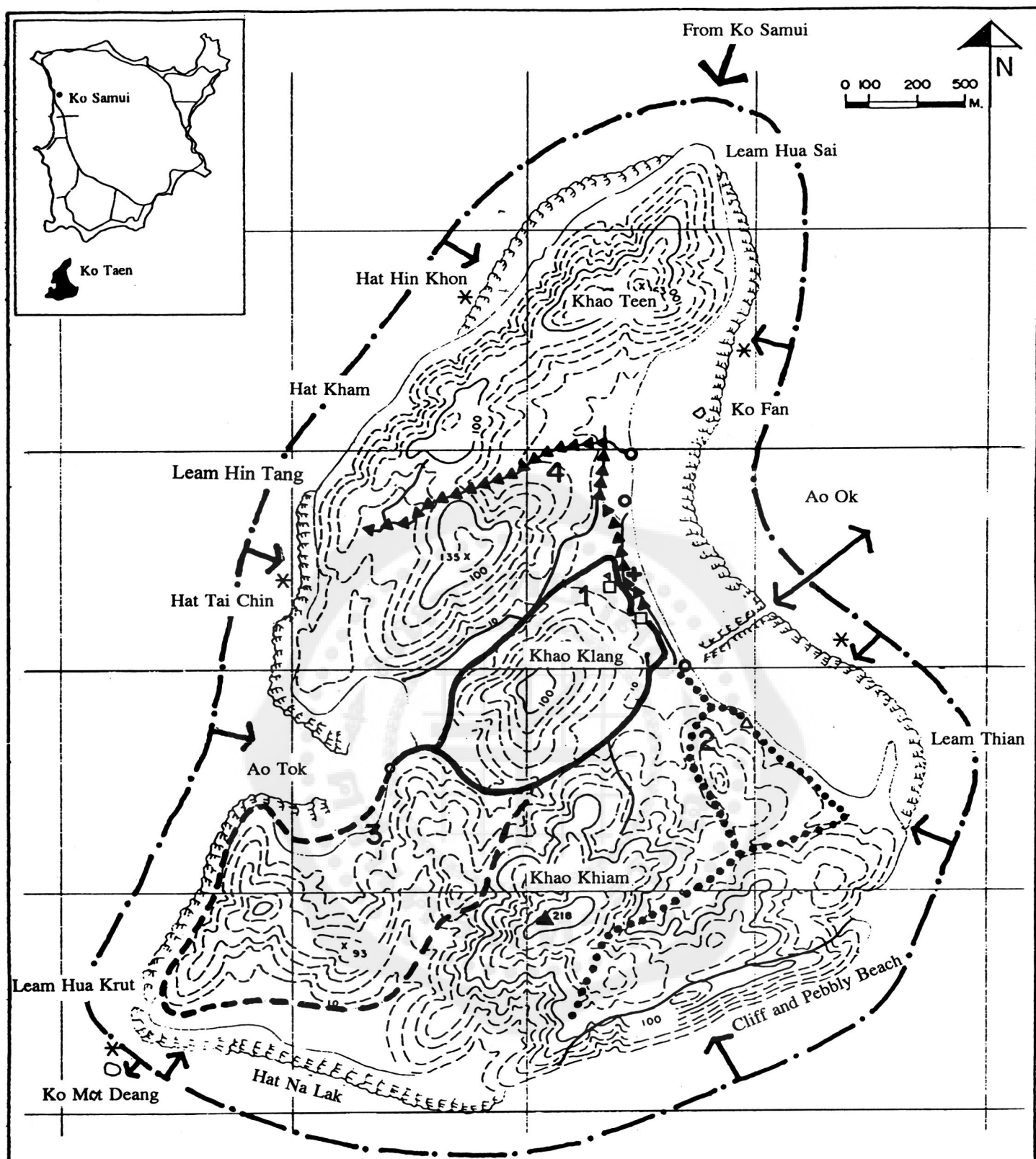


Figure 5 Trails proposed for Eco-tourism

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Ban Ko Taen Conservation Club is the local people organization which was set up almost 2 years. Their objectives are to conserve and preserve the natural resources on Ko Taen, to bring the unity of people and encourage them to be able to live happily and reasonably to their situation. To support their objectives eco-tourism will be a new activity and should be started up by local people or by the club. Local community should play roles and tasks in supervising the eco-tourism activities of all over Ko Taen, which comprise of tourism programme arrangement, tourism services control, touring guides arrangement, natural interpreting installation and environmental preservation in tourism trails. To publish papers and to implement other activities that would promote eco-tourism are also the new tasks of them.

By this way the eco-tourism will be established on this small island under the concept of local community playing major role of the development. However, at the beginning stage, local people need the academic support on the eco-tourism management, the support from public sectors and need the organization development to be strengthen in order to enhance their capacity.

SECOND INTERNATIONAL CONFERENCE
“ IMPLEMENTATION OF ECOTOURISM: PLANNING, DEVELOPING AND
MANAGING FOR SUSTAINABILITY “

DEVELOPMENT OF ECOTOURISM IN TAMAN NEGARA, THE NATIONAL
PARK IN PENINSULAR MALAYSIA AND ITS MANAGEMENT
STEWARDSHIP

By

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ABSTRACT

Ecotourism in protected areas has been a major force in overall tourism perspective. People attitudes and their involvement in tourism have evolved from simple outdoor enjoyment to a more purposive and appreciative activities. Tourists or recreationists are willing to travel to remote areas to be with the natural conditions. Growth in ecotourism is expected to expand into the near future for both local Malaysians and foreign tourist in many protected areas including the national parks and recreational forests. Therefore recognizing the patterns, the needs and requirements of the recreating tourists and the resources management is important in order to develop the management strategy and policy. In Taman Negara, the National Park differences can be observed between various types of tourists in relation to their presence, activity participation, facility requirements and their perceptions toward environment and its management. The accessibility to Taman Negara was mainly by public and river transportation that influenced the number of tourists arrival and level of recreational experience. The accommodation sought were mainly chalets followed by campground and hostels. The management inputs however were mainly habitat and species while tourist or user management was passive with some regimentation. A comprehensive management approach is therefore needed for sustainability based on ecological and socio-economic balance.

Introduction

In modern society people can be identified with increasing income and leisure. This condition can be observed among Malaysians and other developing and advanced societies. An increasing number of people is discharging their leisure time by bringing themselves closer to nature. They are willing to travel farther, willing to participate in recreation activities and willing to pay for such opportunities in order to gain the benefits.

In addition many natural areas near homes or in the community are usually inadequate or lacked in character. To satisfy this needs and to enhanced their relationship with the nature many people sought to national parks, state forests and marine sites in order to recreate themselves. The phenomena that involved people travel to natural sites and engaging in activities which consume either directly or indirectly of the natural elements is referred to as ecotourism. In Peninsular Malaysia these areas are mostly public lands and administered by the Department of Wildlife and National Parks, Forest Department and State Administration.

In the whole country the ecotourism trend in protected areas has been on the steady increased. National parks and equivalent areas are emerging as important destinations for those tourists due to the richness of the resources. The environmental components of these areas can support a wide range of activities that related to ecotourism. The activities include direct or indirect consumption of the natural resources. Among the activities which are recreational include scenic viewing, nature study and appreciation, jungle hiking, forest and cave expedition, mountain climbing, caving, scuba diving, etc.

As uses grow public agencies that manage recreational lands and private sectors that offer services in terms of facilities provisions have to face increasing accountability in terms of delivery of an unimpaired ecotourism products. There are several issues and problems that can affect tourists experience and the quality of the resources. Several significant

factors were identified including several socio-economics and on-site variables that caused this situation to take place.

Ecotourism products and resource conservation

Public areas including protected land and equivalent areas are the main place for ecotourism activities. Because of its large areas most national parks and recreational forests provided elements of intrinsic rewards for tourists to experience. These elements include distinctness, uniqueness, fascination, rarity, emotional, etc.

The current composition of protected areas in Peninsular Malaysia was initiated about 60 years ago (Table 1). Among the areas included King George National Park (later known as Taman Negara) which was established in 1938 and 1939. Taman Negara total size is 4343 sq. km. which is the biggest protected area in Malaysia. It has been one of the most significant natural areas in the Peninsular (Figure 1). It served both as the premier conservation area in the country and for outdoor recreation of the public. Up until the late 1970's ecotourism activities which was related to protected areas was minimal. The activities were mainly pursued by the British colonial staff, government administrators, planters and foreign visitors. Few local visitors used protected areas as their leisure outlets.

Natural resource and management

In Taman Negara most of the ecotourism elements of attractions are offered and accessible to most tourists. This includes the landforms features such as Gunong Tahan, the tallest mountain in Peninsular Malaysia (2185 metres), the tropical rain forest that is considered as the oldest forest in the world, limestone outcrop and hill which is the

longest in the Peninsular, vegetative diversity and density, rivers systems both flat and whitewater, diverse animals and birds population.

The management approaches in Taman Negara and other reserves are mainly done through habitat and animal species mainly the big mammals. These include elephants (*Elephas maximus*), rhinoceros (*Dicerorhinus sumatrensis*), wild cattle (*Bos gaurus*), sambar deer (*Cervus unicolor*), etc. The management of habitat is done through law enforcement, patrolling of the reserve boundaries and zoning of areas of wildlife significance. Several feeding areas for wild cattle were established including grazing plots and salt licks areas (DWNP, 1995).

Visitors management and recreational provision

The ecotourism activities consisted of expeditions, journeys to the remote places, watching and hunting wild animals. However since late 1970s ecotourism that was related to Taman Negara and equivalent areas has picked up steadily and seemed to continue in the near future (Table 2). Visitors to the Park included local Malaysians and foreign visitors. In the earlier years foreign visitors made up the majority of visitors arrival but in recently an increasing number of Malaysians started to arrive and made up of halved of the total visitors (Figure 2). Most of foreign visitors originated from Western Europe while Malaysian came from urbanized Kuala Lumpur and nearby states of Selangor. Low income persons who were mainly students combined with low-middle income bracket formed the largest group of visitors (Abdullah, 1995). This showed that ecotourism is becoming popular leisure outlet among the public being participated by all category of people.

Recreational activities being pursuit in this type of setting can be categorized into four distinct packages that include: (1) elementary, e.g. hiking and jungle walking (2) appreciative, e.g. nature study, scenic viewing, birds and wildlife observation (3)

specialized, e.g. mountain climbing, forest expedition or caving (4) supplementary activities, e.g. picnicking, swimming, boating and canoeing. This revealed that ecotourism is associated with the levels of person's motivations and special requirements of the sites in relation to the environmental attributes (Virden and Schreyer, 1988).

Accessibility is another important factor that made people to travel to the sites. A collective pattern of recreation travel that involved mainly public transportation can be observed while many Malaysians visitors used their own transports (Abdullah, 1995). Availability of public transportation is an important criterion related to ecotourism in the Park and other equivalent areas.

Most visitors to this wilderness area were still unskilled in terms of living in natural environment. Basic and simple accomodations were sought such as chalets, hostels and campgrounds are to be provided to different types of visitors in accordance to their requirements and preferences. In addition other related facilities such the structure, design and the surroundings that are compatible with the environment are to provided for the experience and positive appreciation of their visits.

Management policy and stewardship

The preservation of the ecology must still remain the clear objective of the Park's administration. Overall management control to prevent the detrimental effects to the natural resources particularly the fragile must be prioritized. Ecotourism activities which could cause degradation of the resources and interfere with normal Park's usage must be regulated. The usage of light camping gear and other low impact equipment should be encouraged. In addition the development of facilities and services by private sectors and concessionaires should be limited to the those essential to public needs and harmonized with the local environment.

Conclusion

This trend of increasing visitors arrival in such natural areas has caused a tremendous pressures to the resources and the provider. The management approaches should concentrate both on the resources and human uses. Low impacts recreational activities should be promoted with the optimum number of users present. Efforts in monitoring both ecological and socio-economics balance are therefore needed in order to ensure the quality of the environment for present and future use.

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Table 1. List of Protected areas in Peninsular Malaysia

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
						Wildlife Reserves (WR)										
						FD ³		DWNP ⁴								
						Total	% of	Total	% of	% of						
State	Peninsular Area ¹ (km ²)	Total Forested Area ² (ha)	%			area	state	Area (ha)	state	PM	Year Gazetted ⁴	Category ⁴	Legislative basis ⁴	Responsible agency ⁴	Implementing agency	IUCN PA Categories ⁵
1	Endau Kuang Wildlife Reserve							5,860			1933	WR	federal	DWNP/FD		VI
2	Endau Kota Tinggi East							61,959			1933	WR	federal	DWNP/FD		VI
3	Endau Kota Tinggi West							7,413			1933	WR	federal	DWNP/FD		VI
4	Endau Rompin National Park							48,905			1983	NP	state	DWNP/state		II
5	Four Islands Bird Reserve							2			1954	WR				V
6	Segamat							31,079			1937	WR	federal	DWNP/FD		VI
Johor	8	18,986	550,715	29.0		48,795	2.8	155,218	8.2	1.2						
7	Bukit Pinang Tuntung Reserve							1			1976	WR	state	DWNP		n/a
8	Sidam Kanan Tuntung Reserve							1			1976	WR	state	DWNP		n/a
Kedah	2	9,426	350,281	37.2				2	0.0	0.0						
9	Pulau Deer Reserve							127			1993	WR	state	DWNP		n/a
10	Taman Negara							106,235			1939	NP	state	DWNP		II
Kelantan	2	14,943	1,027,736	68.8		108,783	7.3	106,362	7.1	0.8						
11	Tanjong Tuan (P. Dickson)							68			1972	WR	state	FD/DWNP		V
12	Zoo Melaka Reserve							21			1983	?	state	DWNP		n/a
Melaka	2	1,650	8,931	5.4				89	0.1	0.0						
13	Port Dickson Island							2			1926	WR	federal	DWNP		V
Negeri Sembilan	1	6,643	216,727	32.6				2	0.0	0.0						
Pulau Pinang		1,031	7,516	7.3												
14	Cameron Highlands							64,953			1962	WR	state	FD/DWNP		VI
15	Endau Rompin Pahang							40,197			1986	WR	state	state		II
16	Frazers Hill							?			1957	WR	state	Town Board		n/a
17	Krau							53,095			1923	WR	federal	DWNP		la
18	Pahang Tua							1,335			1954	WR	state	state		VI
19	Taman Negara							248,227			1939	NP	state	DWNP		II
20	Tasik Bera										1995		state	state		V
21	Tasik Chini												state	state		V
22	Tioman Island							7,160			1972	WR	federal	DWNP		la
Pahang	7	35,965	2,113,210	58.8		361,130	10.0	414,967	11.5	3.2						
23	Batu Gajah Bird Reserve							4			1952	?	state	DWNP		n/a
24	Bota Kanan Tuntung Reserve							8			1993	?	state	DWNP		n/a
25	Chior							4,330			1903	WR	state	FD		.7.
26	Sungkai							2,468			1921	WR	federal	DWNP		la
Perak	4	21,005	1,044,140	49.7		7,413	0.4	6,810	0.3	0.1						
27	Wang Pinang							68			1984	WR	state	DW ¹		III
Perlis	1	795	7,110	8.9		68	0.1	68	0.1	0.0						
28	Bukit Kutu							2,979			1922	WR	federal	FD/DWNP		VI
29	Frazers Hill							1,943			1922	WR	federal	FD/DWNP		VI
30	Klang Gate							130			1936	WR	federal	FD/DWNP		VI
31	Kuala Selangor							296			1922	WR	federal	FD/DWNP	MNS	VI
32	Sg. Bk. Puteh							36			1932	WR	federal	FD/DWNP		IV
33	Sungai Dusun							4,330			1964	WR	federal	DWNP		lb
34	Templers Park							1,011			1956	WR	federal	FD/DWNP	FOTF	n/a
Selangor	7	7,956	181,961	22.9		7,644	1.0	10,725	1.3	0.1						
35	Bukit Palong Tuntung Reserve							1			1991		state	DWNP		n/a
36	Taman Negara							80,289			1939	NP	state	DWNP		II
Terengganu	2	12,955	735,220	56.8		77,507	6.0	80,280	6.2	0.6						
37	Bukit Nenas (Weld)							16			1906	WR		FD/DWNP		n/a
38	KL Golf Course Bird Reserve							403			1923	WR		DWNP		n/a
39	Sg. Bk. Puteh							4			1332	WR	federal	FD/DWNP		IV
KL	3	244	254	1.0				423	1.7	0.0						
Total for Peninsular Malaysia	37	131,599	6,243,801	47.4		611,340	4.6	774,956		5.9						

Abbreviations:

DWNP - Department of Wildlife & National Parks
 FD - Forest Department
 FOTF - Friends of Temples Park
 MNS - Malaysian Nature Society
 NP - National Park
 PM - Peninsular Malaysia
 WR - Wildlife Reserve

Notes:

- 1 According to EPU, 1985.
- 2 1990 land use data from Department of Agriculture, 1995.
- 3 Forest Department Annual Report 1994.
- 4 Data compiled in this present project (Columns 1, 4, and 8 to 15).
- 5 IUCN, 1994b. Protected Areas Categories.

Source : DWNP and DANCED (1996).

Table 2 Time series visitors to Taman Negara, 1980 to 1994

Year	Malaysian		Foreign		Total
	Frequency	%	Frequency	%	
1980	1506	39.7	2287	60.3	3793
1981	2875	46.3	3331	53.7	6206
1982	4954	67.7	3836	32.3	8790
1983	3995	48.2	4285	51.8	8280
1984	4531	55.8	3586	44.2	8117
1985	5817	60.9	3738	39.1	9555
1986	7537	60.5	4930	39.6	12467
1987	N.A	-	N.A	-	11120
1988	5134	42.7	6876	57.3	12010
1989	5408	38.0	8832	62.0	14240
1990	6903	39.8	10444	60.2	17347
1991	7932	40.1	11846	59.9	19778
1992	11889	47.6	13086	52.4	24975
1993	15366	49.5	15668	51.5	31034
1994	17499	47.4	19423	52.6	36922

Key : N.A = Not available

Source: i. Taman Negara visitors record book
ii. DWNP Annual Reports

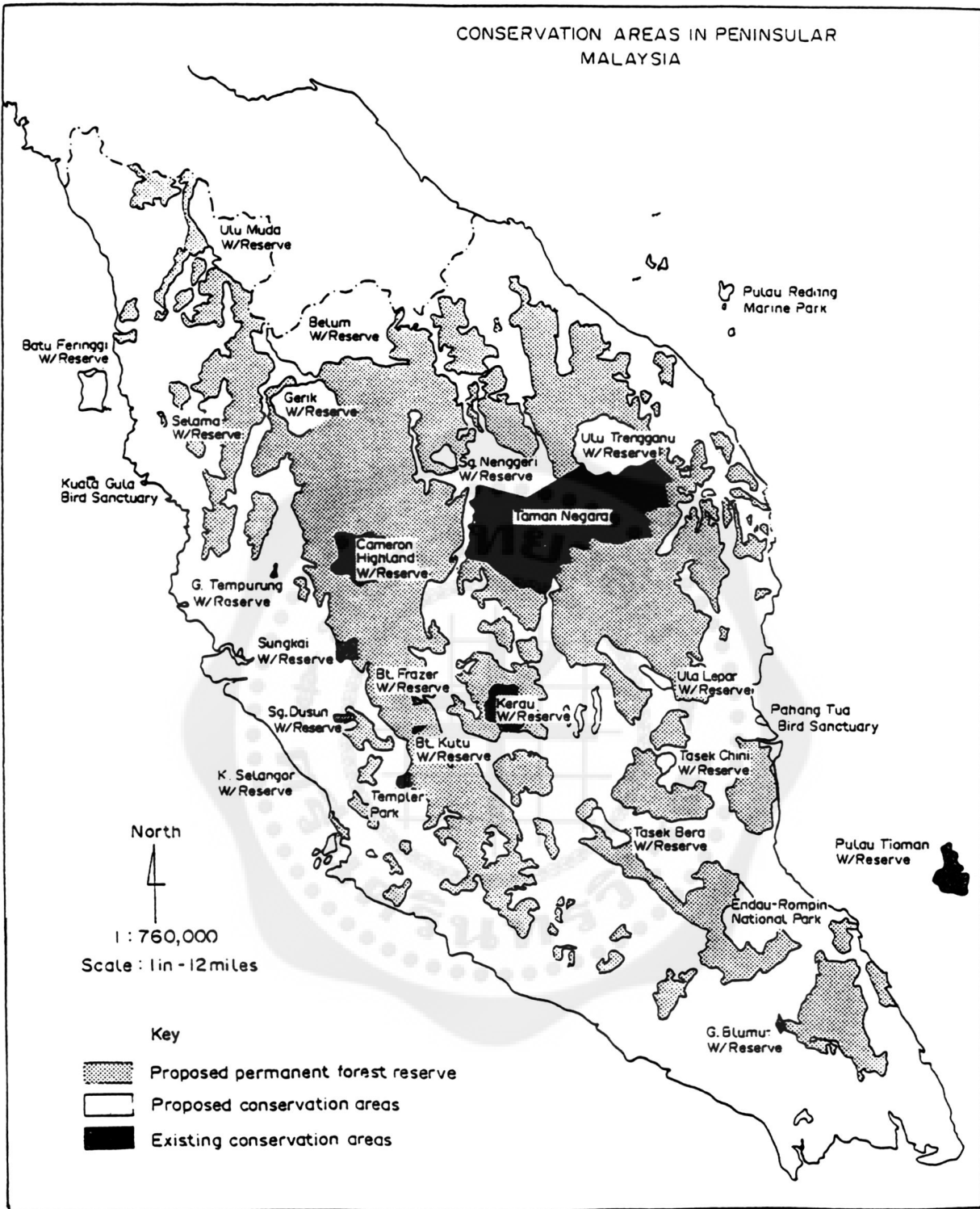


Figure 1. Taman Negara and other protected areas in Peninsular Malaysia

Source: DWNP, Peninsular Malaysia.

Figure 2 Time series of visitors to Taman Negara, 1980 to 1994

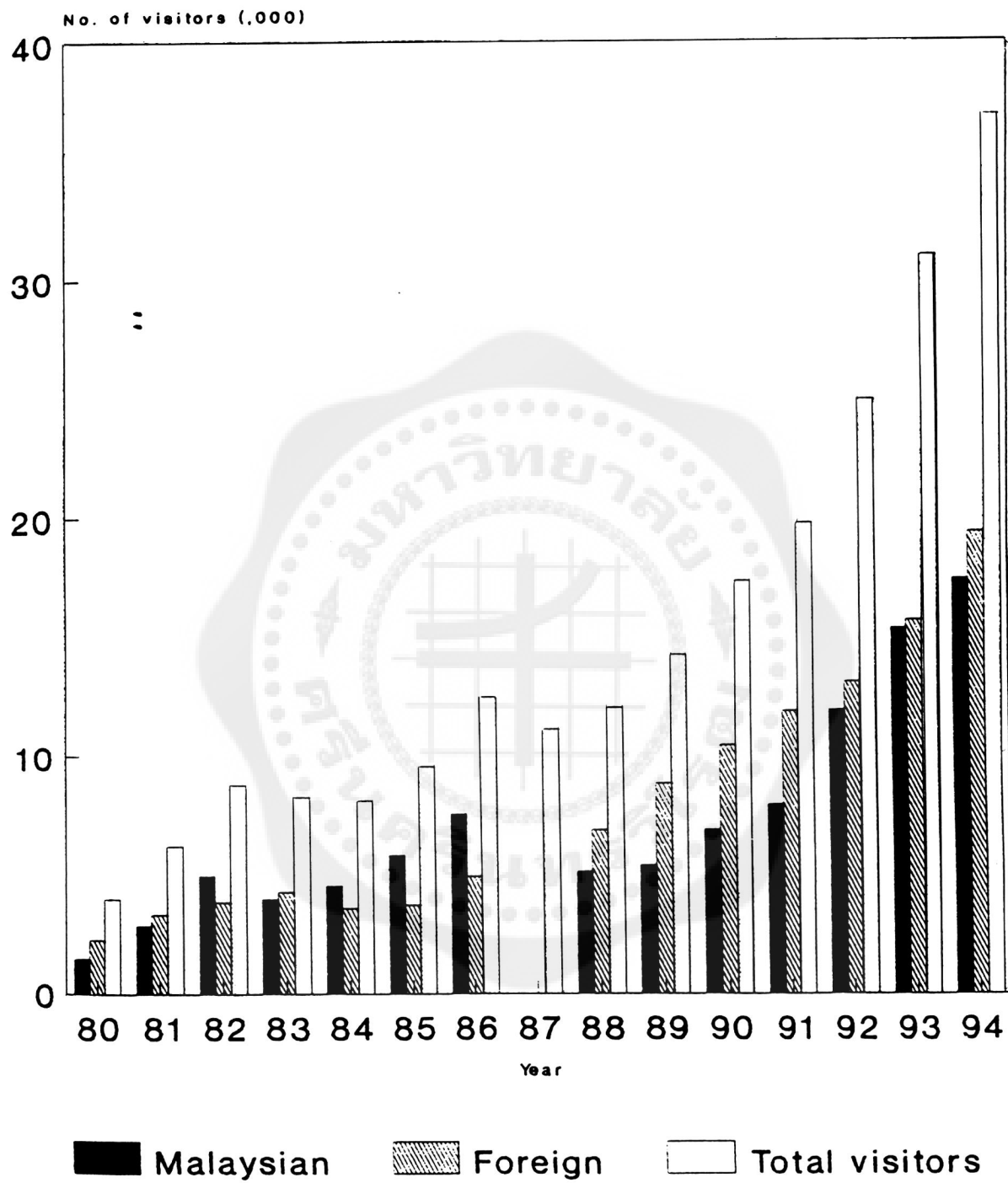
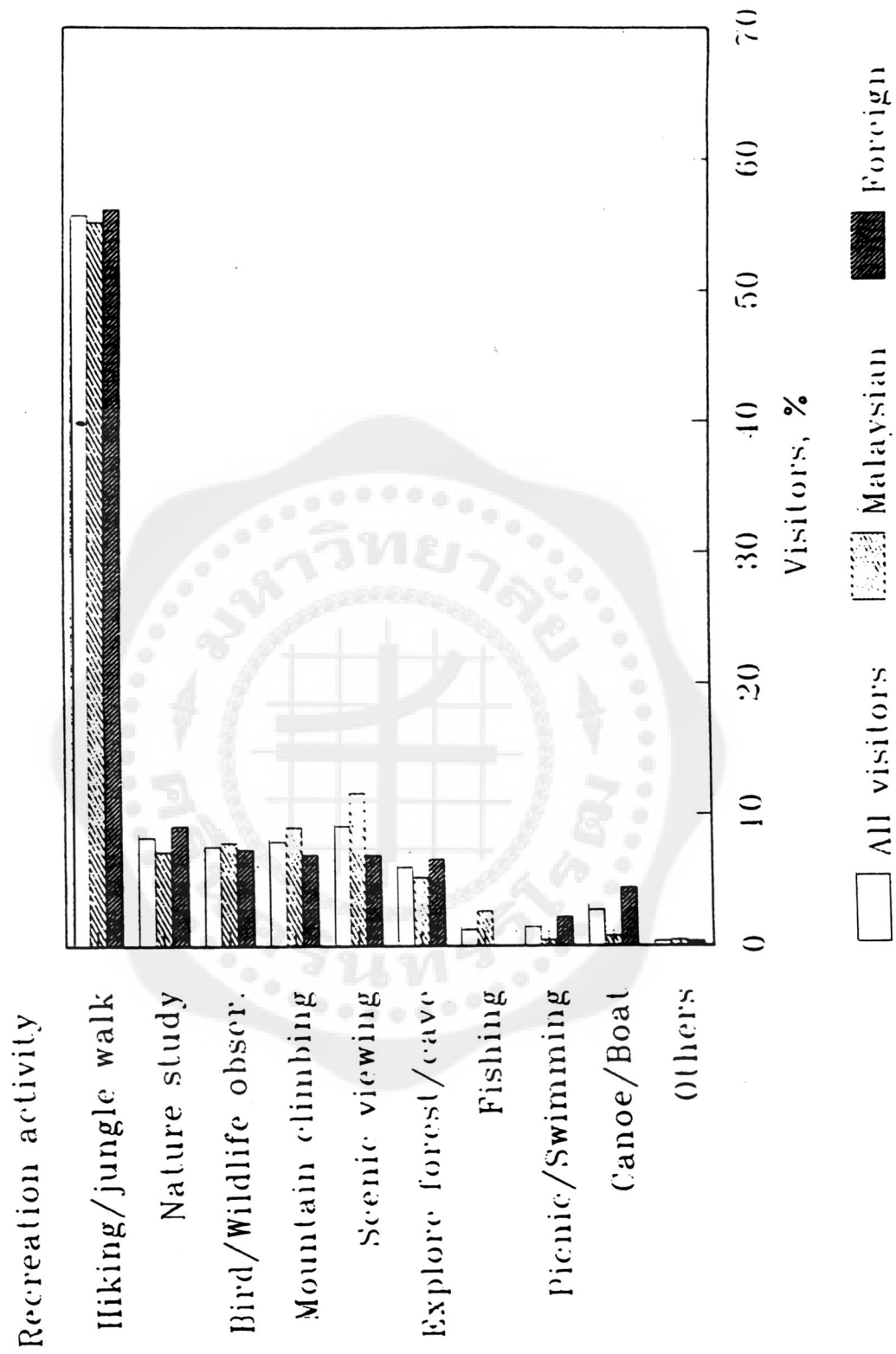


Figure 3. Recreation activity participation
in Taman Negara



ENVIRONMENTAL CONSIDERATIONS FOR PROTECTION OF MARINE ECO-SYSTEM IN DEVELOPING COUNTRIES.

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ABSTRACT:

The natural sites which attract human beings and promote eco-tourism mostly comprise of water bodies like waterfalls, coastal beaches, rivers, lakes, streams, ponds etc. The developed countries have taken full advantage of their natural resorts and have merged it with the countries economical development plans by promoting tourism. The situation for the developing countries is quite different. The water resorts instead of being beneficial as a tourist resort are being used as dumping sites of different kinds of solid, liquid and radioactive waste products which are being produced by industries such as chemical industry, textile, nuclear power plants, battery manufacturing, insecticides, pesticides and herbicides manufacturer, electroplating industry, petro-chemical industry etc. They all discharge their solid and liquid waste which are hazardous and toxic in nature containing organic, inorganic compounds and toxic metals like arsenic, chromium, lead, cadmium etc. into the nearby streams, ponds, river. These pollutants then ultimately find its way into the ocean. Sometimes untreated or poorly treated domestic sewage is also thrown into the water bodies by Government agencies like Municipal corporation, Cantonment Board, Water and Sewerage Boards, thus polluting the water bodies with pathogenic bacteria, viruses, protozoa, helminths along with other different types of other pollutants.

The role of the tourist is also not very encouraging who have their solid waste littering along the coastal beaches. A Clean up operation of coastal beaches recently carried out by volunteers of developing countries like Pakistan, Singapore, Mexico, Korea, Malaysia, Hongkong, Indonesia etc.

Collected about 784,298 pounds garbage from a length of 548.5 miles which comes to about 1430 lbs per mile of coastal beach as against 629 lbs per mile in the USA.

The result of all this is that the quality of our water bodies are badly deteriorating making it not only unfit for drinking but also for bathing, swimming, water skiing, fishing and all kinds of water sports activity and tourism. When tons and tons of these pollutants are being dumped daily into the water bodies then naturally the aquatic and marine eco-system is disturbed with the result that they tend to migrate from the area and if they do not then their tissues absorb toxic elements which may be carcinogenic in nature and finally transfer them to the human beings through food chain process.

There is an urgent need to make water quality standards, develop management procedures, frame legislation, device implementation and monitoring techniques launch public awareness program through various communication media, like radio, television, news papers seminars, keeping in view the environmental considerations so as not to disturb the eco-logical balance of the marine eco-system.

INTRODUCTION:

About 71% of our planet earth consists of water out of which ocean makes up to 97% which plays a key role in the survival of life on earth. The oceans are the ultimate receptacle of terrestrial water flowing from rivers. It plays a major role in regulating the climate of the earth by distributing solar heat through ocean currents and evaporation as part of the hydrologic cycle. It also acts as reservoir of carbon dioxide and regulates the temperature of the atmosphere. Oceans provide habitats for about 250,000 species of marine plants and animals which are a source of food for many organisms including human beings. It also serves as a source of useful products like iron, sand, gravel, phosphates, lime, magnesium, oil, natural gas, pearls and many other valuable materials.

MAJOR OCEAN ZONES:

The world's oceans can be divided into two major zones: Coastal and open sea. The coastal zone is relatively warm, nutrient rich, shallow water that extends from the high tide mark on land to the edge of a shelf like extension of the continental land mass known as the continental shelf. It is about 10% of the total ocean area, contains 90% of all ocean plant and animal life and is the site for major commercial marine fisheries and contains some of the earth's most important ecosystems. These highly productive areas provide us and other species with a remarkable variety of benefits. They supply food and serve as spawning and nursery grounds for many species of marine fish, shellfish etc. They are also breeding grounds and habitats for water fowl and other wildlife, including many endangered species. Each year millions of people visit coastal zones for whale or bird watching, waterfall hunting and other recreational activities. Coastal areas also dilute and filter out large amounts of water borne pollutants, helping protect the quality of waters used for swimming, fishing and wildlife habitats.

Estuaries are coastal areas where fresh water from rivers, streams and land run off mixes with salty water. It provides aquatic habitats with a lower average salinity than the waters of the open ocean. Estuaries produce more plant biomass per square meter each year than any of the world's other ecosystems consisting of islands of swamps, marshes, tropical rain forests etc.

The sharp increase in water depth at the edge of the continental shelf marks the separation of the coastal zone from the open sea. The marine zone contains about 90% of the total surface area of the ocean but only about 10% of its plant and animal life. Because of the massive surface area the open ocean is the largest contributor to the earth's total net productivity.

Estuaries and coastal wetlands are among our most productive and important natural ecosystem. But they are also among our most intensely populated, used and stressed ecosystems. Human activities are increasingly impairing or destroying some of the important benefits which these ecosystem provide.

ENVIRONMENTAL CONSIDERATION FOR DEVELOPMENT AND PROTECTION OF MARINE ECOSYSTEM.

MAJOR AGENTS OF MODIFICATION	ACTIVITIES	ECOLOGICAL STRESS
WASTE DISCHARGE	RESIDENTIAL COMMERCIAL INDUSTRIAL TRANSPORTATION AGRICULTURAL	ORGANIC WASTES /NUTRIENTS HEAVY METALS HYDROCARBONS PESTICIDES /FERTILIZERS THERMAL WASTES RADIOACTIVE WASTES SOLID WASTES.
DREDGING/FILL	NAVIGATION MINERAL EXTRACTION AND PROCESSING PLACEMENT OF DREDGED SPOIL.	DREDGING SPOIL POLLUTANTS DESTRUCTION OF HABITATS ALTERATION OF FLOW PATTERN.
PHYSICAL STRUCTURES	SHORELINE PROTECTION; SEAWALLS JETTIES BREAKWATER SHORELINE DEVELOPMENT: RESIDENTIAL COMMERCIAL INDUSTRIAL, POWER, RECREATIONAL MARINAS BEACHES PARKS FISHING HOLIDAY, COTTAGES HOTELS ETC, PORTS HARBOURS, DOCKS, SHIPYARDS PIPELINES OUTFALLS	DESTRUCTION OF HABITATS AND WETLANDS IMPOUNDMENTS ALTERATIONS IN NATURAL WATER MOVEMENT WATER QUALITY DETERIORATION
NATURAL RESOURCES DEGRADATION	CONVERSION OF MANGROVE SWAMPLANDS INTO OTHER LAND USES. OVERFISHING OVER-EXPLOITATION OF MANGROVE FOREST	LOSS OF NATURAL RESOURCES OF SOCIO-ECONOMIC VALUE.

A CASE STUDY: POLLUTION OF MARINE ECOSYSTEM OF KARACHI COAST.

Karachi the former Capital of Pakistan and presently the capital of the Province of Sindh has a population exceeding over 10 million. It is the biggest and the most industrialized metropolitan city of Pakistan. It shares with the Arabian Sea a coast line of about 990 km with an area of 240,000 sq.km. of the Exclusive Economic zone (EEZ).

This 990 km coast line consist of 745 km of Balushistan, 245 km of Sindh coast, out of which 30 km of coastal water of Karachi receive a very heavy load of land based pollution mostly industrial, municipal and oil waste.

The industrial wastewater estimated to be 181 mgd mostly untreated containing organic, inorganic pollutants and other toxic metals like lead, cadmium, chromium, arsenic etc, from industries such as textiles, tanneries, cement, food, oil mill and other engineering works viz a viz (petro chemical, electroplating battery manufacturing etc), whose major constituents given below. (Table 1 to 4).

TABLE 1. POLLUTION PARAMETERS OF SELECTED INDUSTRIES

INDUSTRY	pH	Tempera ture (°C)	T.D.S (mg/l)	B.O.D. (mg/l)	T.S.S (mg/l)	Conductiv ity (u-Mhos /Cm)	C.O.D (mg/l)
Textile	10.9	37	4860	260	1406	5047	4352
Cement	6.5	41	6750	N.D.	7240	563	64
Food	5.9	34	9654	565	210	3055	1572
Engineering Works	2.2	36	9543	N.D.	295	9562	32
Oil Mill	7.7	43	12520	1960	1073	526	3920

T.D.S. = Total Dissolved Solids

B.O.D. = Biochemical Oxygen Demand

T.S.S. = Total Suspended Solids

C.O.D. = Chemical Oxygen Demand

TABLE 2. TOXIC METALS OF SELECTED INDUSTRIES

INDUSTRY	Pb (mg/l)	Zn (mg/l)	Cu (mg/l)	Ni (mg/l)	Mn (mg/l)	Cd (mg/l)
Textile	00.0	5.65	0.04	0.72	0.12	0.06
Cement	0.92	2.79	0.54	1.32	6.23	0.52
Food	0.34	0.34	0.07	0.36	0.12	0.05
Engineering Works	12.54	96.5	0.42	0.96	6.46	0.34
Oil Mill	0.62	2.36	0.04	0.78	0.32	0.04

Source: Department of Applied Chemistry, Karachi University.

TABLE 3. CHARACTERISTICS OF TANNERY WASTES OF DIFFERENT PROCESSES

PROCESS	pH	TOTAL SOLID (mg/l)	SUSPENDE D SOLID (mg/l)	B.O.D (mg/l)	VOLUME OF WASTE/ 100 KG HIDE (mg/l)
Soaking	7-12	17276	2348	1950	57
Liming	11.4	41600	9550	11525	42
Deliming	2-11	6520	1285	1345	29
Chrome Tann.	2-3.5	10490	438	942	38
Comp. Wash.	7-12	18400	2980	6855	331

Source: KDA, Karachi, 1987.

TABLE 4. CHARACTERISTICS OF COMPOSITE EFFLUENTS

PARAMETERS	TANNERY WASTE (CHROME)
pH	4.2-7.4
Suspended Solids	2745
Chlorides	7400
Chromium	160
Alkalinity	295-450
B.O.D.	585
C.O.D.	6450
Dissolved Solids	9400
Zinc	7.2
Lead	2.2
Manganese	0.53
Copper	0.42
Nickel	1.25
Cadmium	0.26
Iron	trace quantity

All the quantities are expressed in mg/l except pH.

Source: IPHER, Lahore

This industrial waste water flows through the municipal storm water drains into the Lyari and Malir rivers with outfall close to Karachi harbour that is Manora channel and Gizri kreek respectively. The municipal waste, estimated to be about 120 mgd (composition as given in table 5) is also discharged into the sea through these rivers.

TABLE 5. TYPICAL COMPOSITION OF UNTREATED DOMESTIC WASTE WATER.

CONSTITUENTS	CONCENTRATION		
	STRONG	MEDIUM	WEAK
Solids total	1200	720	350
Solids Dissolved	850	500	250
Fixed	525	300	145
Volatile	325	200	105
Solid Suspended	350	220	100
Fixed	75	55	20
Volatile	275	165	80
Settleable Solids ml/l	20	10	5
BOD ₅	400	220	110
TOC	290	160	80
COD	1000	500	250
Nitrogen (Total)	85	40	20
Organic	35	15	8
Ammonia (free)	50	25	12
Nitrites	0	0	0
Nitrates	0	0	0
Phosphorus (Total)	15	8	4
Organic	5	3	2
Inorganic	10	5	3
Chlorides	100	50	30
Alkalinity (CaCO ₃)	200	100	50
Grease	150	100	50

All values except settleable solids are expressed in mg/l.

The other major pollutant in Manora channel is the oil waste discharge of about 20000 tons per year from the two oil refineries and washings of the oil tankers and ship leakages. Characteristics of untreated effluents from the Pakistan refinery and treated effluent from National refinery are given in table 6 and 7 respectively.

TABLE 6. POLLUTION CHARACTERISTICS OF UNTREATED PAKISTAN REFINERY LTD. EFFLUENTS

SR. NO.	PARAMETERS	ESTIMATED VALUES
1.	pH	6.5-9.6
2.	Temperature	45-49 °C
3.	Suspended Solids	150-300
4.	Free Oil	1600-2500
5.	Phenolic Compounds	10-12
6.	Alkalinity	12-270
7.	B.O.D. ₅ at 22°C	145-300
8.	Total Dissolved Solids	500-700
9.	Sulphides	15-55
10.	Copper	1.4
11.	Lead	3.8
12.	Nickel	1.3
13.	Zinc	1.2

All the quantities are expressed in mg/l

TABLE 7. POLLUTION CHARACTERISTICS OF TREATED NATIONAL REFINERY LTD EFFLUENTS

SR. NO.	PARAMETERS	ESTIMATED VALUES
1.	pH	7.6
2.	Temperature	30-35 °C
3.	Suspended Solids	10-25
4.	Free Oil	90-110
5.	Phenolic Compounds	5-7
6.	Alkalinity	8-95
7.	B.O.D. ₅ at 22°C	10-26
8.	Total Dissolved Solids	20-40
9.	Sulphides	10
10.	Copper	0.5
11.	Lead	0.2
12.	Nickel	0.3
13.	Zinc	0.5
14.	Manganese	0.2

The parameters 4-14 are all expressed in mg/l.

These discharges of untreated waste water from various sources into the sea has resulted in depleting below critical level of the dissolved oxygen (D.O) which supports marine life resulting in partial to total loss. The D.O. in deeper layers is found to be 1.5 mg/l against 4 mg/l normal for sea water and in top layer it is less than 4 mg/l against 6 mg/l normal sea water. In addition to this various toxic metals like chromium, lead, arsenic, cadmium, silver etc. effect the marine organisms, fish, shell fish, oysters, shrimps etc surviving slightly away from the coastal waters get contaminated and their poisonous metals effect the human beings through food chain processes. Table 8 below shows some of the health effects of these established toxic pollutant.

TABLE 8 HEALTH EFFECT OF SOME OF THE TOXIC POLLUTANTS

ARSENIC	Poisonous in humans at 100 mg or more. Lethal at 130 mg. Accumulation in the body is expected to raise progressively at low intake level. Poisonous at concentrations of 0.21 mg/l. Target organs in humans are skin, lungs, genital and visual organs.
CADMIUM:	Nausea and vomiting at 15 mg/l Target organs by ingestion Kidneys. (renal dysfunction, hypertension and anemia)
CHROMIUM HEXAVALENT	Toxic dose for man was reported at about 0.5g of potassium bichromate. It is carcinogenic. Target organs are liver, kidney, respiratory organs with hemorrhagic effects, dermatic and ulceration of the skin.
LEAD	Symptoms start in adult at blood lead level of 40-60 ug/dl. Toxic levels is reached at blood level 100-120 ug/dl symptoms of advanced lead poisoning are, constipation, anemia, gastrointestinal disturbance, tenderness and gradual paralysis in the muscles. Target organs. Permanent, severe mental retardation with other neurological symptoms.
MERCURY	Fatal doses in human varies between 75-300 mg/d. 0.25 mg of mercury as methyl mercury caused the on-set of neurological impairment. Target organs of inorganic mercury is kidney, with neurological and renal disturbance.
CYANIDE	Target organs lungs, gastrointestinal tract, and skin.
SILVER	Target organ skin, produce argyria ie bluish grey discoloration of the skin.

Since the waste water is untreated, the fecal coliform count (Which indicates biological Contamination) particularly in the vicinity of Malir outfall is very high to the Order of 9180 MPN/100 ml. Even the beaches away from the outfall have recorded fecal coliform count up to 4×10^3 MPN/100 ml. This biological contamination could be a source of potential danger to the recreational areas.

Other effects could be increased eutrophication which means that initially there is enhanced growth of plants due to pollutants containing higher quantities of nitrates and phosphates. Then they die in large number due to lack of D.O. Eutrophication is the deposition of dead and decaying plant tissues on the shallow bottom thus reducing its depth. These dead tissues increase bio-chemical Oxygen demand and thus deplete D.O. in sea water. This causes death and mortality of marine organism reducing their population density. Algae blooms have been noticed thus disturbing the ecological balance.

The role of the tourist is also not very encouraging who have their solid waste littering along the coastal beaches. A Clean up operation of coastal beaches recently carried out by volunteers of developing countries like Pakistan, Singapore, Mexico, Korea, Malaysia, Hongkong, Indonesia etc. Collected about 784,298 pounds garbage from a length of 548.5 miles which comes to about 1430 lbs per mile of costal beach as against 629 lbs per mile in the USA.

In order to protect the ecological balance of the Marine Eco-system and to make our coastal beaches more attractive for tourist and visitors a number of steps have been taken. The first and the foremost in to control the pollution levels being discharged into the sea every day for this National Environmental Quality Standards have been framed as given below (Table 9) which are being made effective and the industries have been asked to reduce the level of pollutants before discharging and in order to have effective control framing of legislation is under progress, and a monitoring network cell is being established.

TABLE 9 NATIONAL ENVIRONMENTAL QUALITY STANDARDS FOR MUNICIPAL AND LIQUID INDUSTRIAL EFFLUENTS (mg/l, UNLESS OTHERWISE DEFINED).

S.No	PARAMETERS	STANDARDS
1.	Temperature	40°C
2.	pH value (acidity/basicity)	6-10pH
3.	5=day Biochemical Oxygen Demand (BOD) at 20°C	80 mg/l
4.	Chemical Oxygen Demand (COD)	150 mg/l
5.	Total suspended solids	150 mg/l
6.	Total dissolved solids	3500 mg/l
7.	Grease and oil	10 mg/l
8.	Phenolic compounds (as phenol)	0.1 mg/l
9.	Chloride (as Cl)	1000 mg/l
10.	Fluoride (as F)	20 mg/l
11.	Cyanide (as CN)	2 mg/l
12.	An-ionic detergents ² (as MBAS) ⁵	20 mg/l
13.	Sulphate (SO ₄)	600 mg/l
14.	Sulphide (S)	1.0 mg/l
15.	Ammonia (NH ₃)	40 mg/l
16.	Pesticides, herbicides, fungicides and insecticides	0.15 mg/l
17.	Cadmium ⁴	0.1 mg/l
18.	Chromium ⁴ (trivalent and hexavalent).	1.0 mg/l
19.	Copper ⁴	1.0 mg/l
20.	Lead ⁴	0.5 mg/l

Table 9 continued		
21.	Mercury ⁴	
22.	Selenium ⁴	0.01 mg/l
23.	Nickel ⁴	0.5 mg/l
24.	Silver ⁴	1.0 mg/l
25.	Total toxic metals	1.0 mg/l
26.	Zinc	2 mg/l
27.	Arsenic	5 mg/l
28.	Barium	1.0 mg/l
29.	Iron	1.5 mg/l
30.	Manganese	2 mg/l
31.	Boron	1.5 mg/l
32.	Chlorine	6.0 mg/l
		1.0 mg/l

Explanation:

1. Assuming minimum dilution 1:10 on discharge. Lower ratios would attract progressively stringent standards to be determined by the Federal Environmental Protection Agency.
2. Assuming surfactant as bio-degradable.
3. MBAS means Modified Benzene Alkyl Sulphates.
4. Subject to total toxic metals discharge as at S. No.25.

Public awareness program has already being launched through various communication media and people are being educated. This has been done not only for adult but also at school, college and university level by creating Environmental Clubs. It has also been proposed to introduce environmental lessons in school text books at all levels up to higher secondary level to promote environmental awareness for future generations.

RECOMMENDATIONS:

1. The framing of the standards should be followed by establishing network cell, which ultimately will have its own laboratory facilities covering, water, waste water, solid waste etc.
2. The next logical step would be to frame legislation and present them to the legislative body for approval.
3. Once the standards are approved, a time limit of two years may be given to the existing industries for implementation. However for the upcoming industries, it can be implemented with immediate effect.
4. Till such time a proper monitoring cell is established, a team may be formed to make regular visits to the industries for atleast preliminary inspection.

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ECOTOURISM IN VIETNAM

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On its mainland Vietnam with its geographical location from 8°30' to 23°22' N latitude and from 102°10' E longitude, is extending over 33 million hectares in a humid monsoon tropical region, next to the Tropic of Cancer and bordering the Pacific Ocean. Its diverse plant and animal resource has come from the population dispersal of the flora and fauna of India, South China and Malaysia in and out of their endemic areas.

Being a country of broken topography, 3/4 of its territory is covered with hills and mountains, some of which are over 1,000 m high. Tropical forests there in thrive over millions of hectares in a country well endowed with a dense network of spring and rivers. Rivers number to over 2,287 when those of more than 10 km long are taking into account. Along the coasts estuaries are found at very 20 km. Rainfall amounts to 1,800 - 2,000 mm, and takes abound. Along 3,000 km of its seashore from Mong Cai to the Cap of Ca Mau and that of Ha Tien, there are over 200,000 hectares of mangroves that make Vietnam rank 2nd or 3rd the world over in mangrove resources.

The rich and diverse flora and fauna of Vietnam reflect well its conditions but may also speak out the wealth of tropical countries as a whole.

According to scientists, on its mainland and off-shore islands Vietnam is endowed with over 7,000 pant species, 800 species of mosses and algae and some 600 species of fungi. Over all, there could be some 12,000 species of plants of all kinds in Vietnam ; out of which about 2,300 species have been used as food crops, medicine plants, fodder and tree crops producing a wide range of products including timber, essential oils and many other materials of interest.

The fauna resource is also worth mentioning. There are 275 species of mammals, 820 species of birds, 180 species of reptiles, 80 species of frogs, 471 species of fresh water fish, 2,038 species of salt water fish and a large number of invertebrates living either in the sea / rivers or on their banks / shores.

In particular after 60 years of search and cruising, in 2 successive years of 1992 and 1994, two (2) big wild animals were found at Vu Quang (Ha Tinh) and Pu Mat (Nghe An). They are known as "Sao la" or " De sung dai" and Mang lon of

Mang U / Mang Bam, to which scientists the world over have attached much interest.

Vietnam is also a country of beautiful and unique landscapes, with its primitive caves, its lakes on mountain tops, its picturesque waterfalls, its sources of mineral waters of all kinds for health care, its sunny and sandy beaches and not the least its towns and cities built up on high mountains.

These 87 protected areas when fully established will comprise : 10 national parks, 48 nature reserves and 29 sites for cultural, historical, environmental and landscape preservation. They constitute of forests, in which almost all species of birds, animals now existing in Vietnam are protected. Thus contributing to improved biodiversity conservation in this country.

Plant and animal gene resources conservation in / out of protected areas has been developing. For in situ protection, emphasis has been laid upon "flat - needle" pine (*Ducampopinus kremfii*) (in Lam Dong), "marsh" pine (*Glyptostrobus pensilis*) (in Dac Lac), blue or incense cedar (*Calocedrus macrolepis*) (in Ba Vi - Hanoi), *Podocarpus fleurhi* (in Cat Ba) ; in the animal kingdom, attention has been paid to the protection of One - horned Rhino (*Rhinoceros sondaicus*) (in Lam Dong and Song Be), white - headed (black) langur (*Presbytis francoisi poliocephalus*) (in Cat Ba), Delacour langur (*Presbytis francoisi delacouri*) (in Cuc Phuong). Ex situ protection has been practiced for over 20 plant species of high value and for such animals as : Delacour langur, grey langur, Japanese sitke deer, eld sambar (*Cervusu nicolor*), black bear (*Selenartor thibetanus*) and macaques (in Cuc Phuong, Cat Ba), eyed - pheasant (*Rheinartia acellata*) (in Bach Ma National Park) and peafowl (*Pavo muticua imperator*) (in Yokdon).

Ecotourism should enhance the conservation, recreation and education potential of protected areas. Conservation of protected areas must be integrated with appropriate development of local communities adjacent to the protected area. Local communities should be involved in defining local conservation objectives, in planning for ecotourism, and in partaking in the benefits of ecotourism. Ecotourism will thereby contribute to rural development, which will further enhance conservation of nearby protected areas.

Many countries in the region consider tourism, both foreign and domestic, as an important sector of their economies. Many tourists spend some of their visit in natural areas such as national parks. Visitors to natural areas have brought to

governments' attention the cultural, educational and economic value of natural areas. Most countries in the region have established and maintain a system of national parks; one of the many functions and benefits of these parks is to provide recreation and education among their goals.)

National parks provide recreation and education to tourists and students, and tourism generates revenue that is used to cover park management costs. But there are many cases where the impact of tourist activity has exceeded the management capacity of the park. Basic infrastructure has been overused, resources have been depleted, and local people have been excluded from activities and have received no benefits.

There are costs and benefits of all tourism to natural areas. The potential costs are environmental degradation, erosion of local culture and socio-economic instability. The education and recreation for tourists, jobs and community projects for local people. (Lindberg and Hawkins, 1993: Boo, 1990).

Vietnam is in a position to plan for ecotourism - to minimize the costs and maximize the benefits. Vietnam is currently promoting the tourist industry, though it is still in the early stages of development. There is concern within Vietnam that many forms of tourism in the region have contributed to environmental degradation and have disregarded the cultural and economic interests of local people. Vietnam should carefully assess its ecotourism potential and plan for it appropriately. If ecotourism is properly planned and managed, Vietnam will avoid the negative impacts of tourism that neighbouring countries have experienced.

Vietnam not only abounds with natural beauty, but it is also rich in cultural diversity. Vietnam is particularly diverse, with 54 ethnic groups. These ethnic peoples, many of them tribal hill people will undoubtedly attract many foreign, and domestic visitors, as has been the case in Thailand. Although some hill people have received some economic benefits from being guides or providing lodging, their cultures have also been impacted by the tourists. There are many examples of guest houses being built carelessly in areas sacred to local people, of international and urban visitors behaving and dressing in culturally insensitive ways, or of local community institutes becoming corrupted by the introduction of tourist money. In Vietnam, Sapa is an example of hill tribes being influenced by heavy tourist visitations. Tourism to Sapa should be assessed and planned for in

order to avoid negative impacts on the local people and the nearby nature reserve (Fanxipan-the highest mountain in Vietnam).

Vietnam's wildlife and protected area attractions

Vietnam's protected areas cannot offer such a popular and accessible wildlife attraction, such as in parts of Africa or India, where large numbers of large mammals can be seen easily. Although Vietnam is home to two of seven large mammals discovered to science in this century, no scientist or tourist has ever seen either of these animals in the wild. The only habitat for Javan Rhinoceros (*Rhinoceros*) on mainland Southeast Asia is the forest of Cat Loc Reserve in Lam Dong Province. But researchers have been unable to see this small remaining Rhino population. It is doubtful that many ecotourists would ever get to see them. Even if Cat Loc's Javan Rhinos were easily accessible (as the Indian Rhinos are in Nepal), tourism might still be inappropriate for the fragile forest and wetland ecosystem of Cat Loc. Researchers must carefully research the Rhinos and their habitat before any conclusions can be drawn. The Rhino population is estimated at 9-15 and their survival is not ensured.

The Saola (*Pseudoryx hatinhensis*) is another example. Although it has become a flagship species for conservation of Vu Quang Nature Reserve, it will not become a big attraction for ecotourists. It is a shy forest-dweller, seldom seen even by scientists.

Birds could be an attraction for serious ecotourists. Vietnam has many rare and endemic bird species. According to a survey by BirdLife International, Vietnam contains three endemic bird areas (areas with two or more birds entirely restricted to them), namely Dalat Plateau, Annamese Lowlands and the Southern Vietnamese lowlands. These areas are among the major biological hotspots in South-East Asia. (Eames, 1994). The birds of the forest area around Ho Ke Go in Ha Tinh province have already attracted foreign bird tour companies from the U.K and U.S.A... (found there are the Imperial Pheasant, (*Lophura imperialis*), Vietnamese Pheasant, (*L. hatinhensis*), among others). Local villagers, participating in the CRES/Oroverde conservation project in Ky Anh district, Ha Tinh, have made up to \$5/day as guides (pers.comm.). Although the number of birders is small, they usually are willing to pay more than typical tourists, especially to see such rare and restricted range birds as the *Lophura* spp. that live in this patch of lowland forest in Ha Tinh. They are also willing to pay if they are ensured that the money is going to conservation; in this case, the guides also

participate in the conservation project, regularly patrolling the habitat of the rare birds.

Vietnam abounds in natural beauty, endemic and exotic wildlife and rich cultural and historical sites. Vietnam's spectacular natural areas and picturesque scenery. Some highlights include Halong Bay, Sapa, Bich Dong, Cuc Phuong National Park, the Mekong Delta. Nam Cat Tien National Park is a good example of a protected area rich in rare and endemic birds which can be easily seen in beautiful surroundings. Many sites remain to be identified and researched.

Ecotourism in Vietnam should be planned so as to maximize benefits over the long term and minimize the negative impacts. Planning requires long term approaches. In some areas conservation requirements may preclude certain types and levels of ecotourism use. It is essential to identify and environmental and social constraints before introducing ecotourism.

Some critics claim that ecotourism to some areas will cause unavoidable damage. Ecotourism to an unspoilt, pristine wilderness may be "internally contradictory", because "in order to generate substantial revenue the number of tourists has to be large. That implies a greater impact on the local culture and the environment, fewer controls and, with more foreign involvement, more foreign currency leakage." (Pleumarom, 1994). This assessment is insightful; but we have to accept that tourism to natural areas is inevitable and increasing in volume. Therefore efforts should be made to maximize the potential positive impact of ecotourism.

Comprehensive surveying and careful planning is required. Planning requires extensive surveying, assessment and understanding of the natural areas, the local communities and cultures involved with the natural areas. Planning should include participation of local people. They should be brought into the planning process as early as possible.

Natural areas must be assessed according to specific criteria, for example, quality to natural features, the ecosystem resiliency (carrying capacity for tourism), accessibility, etc. The Biodiversity Action plan (BAP) of Vietnam provides a useful example. Ba Vi National Park has a lower biodiversity conservation value than the Vu Quang Nature Reserve (whose biodiversity is of international importance). But Ba Vi has a high potential for tourism due to its beautiful vistas, waterfall, ruins, and its proximity to Hanoi.

Bach Ma National Park also has high tourism potential - it offers spectacular views of Hue and Danang cities, and the ocean. It is also very accessible, the park entrance only 5 kilometers from highway 1. Well planned and managed accommodation and services could support many tourists without detriment to forests and wildlife. Bach Ma also has high biodiversity value, but most of its species are represented in other protected areas. Taking a comprehensive, countrywide view of the situation, it is more prudent to develop Bach Ma for tourism, rather than Cat Loc, Vu Quang or Phu Mat. Not all national parks and protected areas have the potential of ecotourism.

Vietnam is in a position to carry out ecotourism planning, which includes local people, before the tourism industry becomes too unmanageable. Government tourist policies and investment priorities and regulations can be set up before tourism reaches sensitive national park areas.

The natural features of a park must be attractive and accessible. The services must be convenient, the lodging comfortable and in harmony with surroundings. Interpretation of natural and cultural features is also important to ecotourists. According to a WWF study, tourists demand more educational materials than is currently available at most attractions. (Lindberg, 1991).

Ecotourists are willing to pay more for conservation so planners must ensure that revenues do go to conservation. It is crucial that local people become involved early in the planning process. Outside agencies should work in partnership with local people and local organisations. In order for local people to gain benefits from ecotourism and work for conservation, they must play an active role in planning tourism and providing tourism and proving services and accommodation to ecotourists.

Benefits of ecotourism must be connected to conservation of local natural resources and protected areas; local people must see this connection. Development of a natural area for ecotourism should be integrated with the development of nearby communities. Development projects should integrate protected areas conservation, ecotourism, and appropriate rural development (or "eco-development") of communities adjacent to protected areas.

There must be economic incentives for conservation. For this to be effective, broad-based participation in the ecotourism project. Local people are encouraged

to make investments (i.e. "have a stake") in the projects, such as planting trees, managing nurseries, patrolling the forest, setting up guests lodges, In some cases community participation in conservation of a national park could be rewarded by the national park contributing to a community development programme, revolving loan fund, or granting privileges in access to some park resources. (Mc Neely, 1988)

Unfortunately, ecotourism has not always led to eco-development. The lack of integration of conservation and development objectives causes further degradation of the resources base and reduces ecotourism potential and possible economic benefits from ecotourism is promoted by large-scale interests from outside the area. The most obvious cause is the neglect of local people's needs and preferences due to their exclusion from the planning process.

There are four points that must be addressed in order for ecotourism to support rural development and conservation objectives:

Governments must have well-defined conservation objectives and priority areas gazetted for conservation.

The ecotourism attractions must be identified and defined. The agencies involved must understand needs of the "consumers" (i.e. the ecotourists). Management must be oriented toward supply, not driven by demand. Marking is required, but ecotourism should not be conditioned entirely by market forces. Much as a national park cannot be totally exposed to market forces, an ecotourism is the tendency to compromise the integrity of an ecotourism attraction in order to attract a fuller range of consumer needs and consumer types.

Natural areas must be identified and prioritized for their ecotourism potential and master-planning must be carried out. This process is analogous to the type of planning that goes into the management of a national park.

Local people must be involved as partners in the process of planning and managing ecotourism projects.

GREEN ACCOMMODATION IN MYANMAR

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Introduction:

Since the United Nations Conference on Environment and Development, which is also known as Earth Summit held in Rio de Janeiro in June 1992, Myanmar is one of the countries which has pledged to give increased attention to developing policies and plans to ensure that economic activities are in harmony with nature and environment.

At the Earth Summit, an action plan which is called Agenda-21 was adopted unanimously to provide us with guidelines in our march towards bright and sustainable future.

The successful implementation of this action plan requires not only firm commitment from (182) governments including Myanmar, which are signatories to the Earth Summit but also concerted actions, which are although not legally binding but morally responsible in order to form a global partnership.

Myanmar is aware that sustainable development and enhancement of the environment are common issues that would be confronted by both industrialized and developing countries at present and in future.

Myanmar Tourism, accordingly shall be developed so that it will enhance the preservation and conservation of the natural environment, scenic beauty, flora and fauna including beach resorts in a proper, planned and controlled manner. Since environmental protection and preservation will be one of our main concerns in the development of tourism, the programmes and projects will focus on minimizing the negative impacts of uncontrolled tourism growth.

Private sector Development in Tourism Sector

Eventhough Myanmar has a lot of potential in terms of cultural heritage, natural scenic beauty, flora and founa, tourism was not encouraged until late 1988, when State Law and Order Restoration Council assumed the responsibility of state leading to the establishment of a separate ministry for hotels and tourism in 1992 and promulgation of Myanmar Hotels and Tourism Law revised in 1993.

Since the private sector is allowed to activate under the law, increasing volume of tourism related business has been recorded in the private sector.

The following licences have been issued to private sector up to 30 June 1996.

(a) Hotels / Lodging Houses	(396)licences
(b) Tour Operators / Travel Agents	(492)licences
(c) Tourist Guides	(1446)licences
(d) Tourist Transport	(1360)licences

Due to promotional activities carried out after the establishment of Ministry of Hotels and Tourism, with the funds available from private sector both local and foreign, there has been a remarkable growth in tourist arrivals and receipts as seen in the table shown below.

<u>SN</u>	<u>YEAR</u>	<u>TOURIST ARRIVALS</u>	<u>TOURIST RECEIPTS</u> (kyats in ml)
1.	1989-90	7699	27.86
2.	1990-91	8806	25.54
3.	1991-92	7947	43.87
4.	1992-93	22363	68.03
5.	1993-94	61000	130.68
6.	1994-95	100000	205.08
7.	1995-96	137320	264.15

Having faith in the incentives and assurances provided under Foreign Investment Law and the enormous potential for tourism development in Myanmar, tourism has been the second highest sector next to energy in terms of foreign investment. The total number of projects and costs of foreign investment are enumerated in the table shown below.

<u>Country</u>	<u>No. of Projects</u>	<u>No. of Rooms</u>	<u>Investment Cost</u> (US. \$ in ml)
Singapore	8	2588	453.5
Thailand	8	1688	180.0
Japan	5	1020	129.0
Malaysia	3	1400	201.0
HongKong	2	675	60.0
China	1	350	6.5
Others	8	1260	60.3
Total	35	8981	1090.3

Source : Tourism (Project) Department

Myanmar Forest Management and wildlife conservation

During the present era, where mankind has experienced the gradual degradation of environment such as depletion of ozone

layer biological resources, destruction of rain forests etc, nature tourism or ecotourism has become the predominant theme in the development and promotion of international as well as domestic tourism. Awareness of this fragile ecosystem and biodiversity guides the national governments in the formulation and implementation of tourism policy and strategy. Myanmar is no exception to this.

Myanmar forests have been managed in harmony with nature since the olden days of the kings although there was no forest conservation in a systematic way. It was mainly due to the Buddhist religion that we practice in which we believe that every tree is a dwelling place for spirits. We are refrained from destroying trees unless it is extremely necessary. Tree worship was also widespread during pre-Buddhist period among the national races.

According to 1990 forest resource survey, Myanmar forests cover about 51% of the total land area i.e 37% of the closed forests and 14% of partially degraded forest. Existence of forest resource together with the richness in biodiversity, flora and fauna offers a superb opportunity for the development and promotion of forest and nature based tourism or ecotourism. Ecotourism combined with culture is considered as one of the rapidly growing areas of tourism to-day. It is estimated that US \$ 25 billion per year flow into ecotourism destinations. If we study the trends and development of tourism in our neighbouring countries, we will find

that Singapore and Hongkong are basically short visit destinations for shopping. Thailand offers pleasure and cultural entertainments, where as Malaysia is currently engaged in developing large scale resort areas. China, India, Sri-Lanka and Indonesia offer cultural tourism. Ecotourism promoted in some of the countries are artificial and man made.

As far as Myanmar is concerned, it will not be able to compete with those countries in tourism based on artificial entertainments due to lack of adequate infrastructure and superstructure development and its late entrance into international tourism scenario.

Myanmar, fortunately is endowed with rich natural resources and biodiversity which are still unspoiled and unpolluted. It would be a great idea if we could develop ecotourism in a small scale which does not require large capital investment along the small islands and beaches in the south and in rural and border areas. We can still attract the kinds of tourists who are not demanding of high standards and first class amenities.

In this way, we can also help the national races by creating more job opportunities and to raise their standards of living by sharing the income generated from development of ecotourism. By promoting ecotourism in the rural and remote border areas where the development is still lagging behind due to inaccessibility, the

socio-economic benefits of the people living in the surrounding areas will be so great and it would lessen the burden falls upon the local and central authorities with a result that they can reallocate the limited available funds on other sectors like health, education etc.

With the passage of time, there has been a reduction in forest cover and degradation of tropical rain forests has taken place not only in Myanmar but also in other parts of the region. Major causes of this are as follows:

- (a) Shifting Cultivation in the hilly and remote part of the country.
- (b) Clearance for new settlements.
- (c) Excessive extraction of timber for fuelwood.

In order to protect and prevent the destruction of forests Myanmar Forest Policy was formulated in 1995 followed by the promulgation of the new forest law in which conservation of environment and biodiversity are highlighted and encouragement is given for people's participation in forest management.

In order to alleviate and control the degradation of forests, Ministry of Forest had undertaken three projects with the technical assistance from UNDP

- (i) Watershed management for three critical areas namely Inlay, Phugyi and Kinda by introduction of improved landuse practices.
- (ii) Community multipurpose fuelwood woodlot and
- (iii) Rehabilitation of Ayeyarwady Mangroves through community participation.

Since the location of the above areas are more or less close to existing attractive tourist destination, there is a hope for more opportunity for tourism once these projects are successfully implemented.

One project undertaken by the Ministry of Forestry is known as "Greening Operation" according to which the tree planting Programme with mass participation is introduced in the nine critical districts of the dry arid zone in the central part of the country in order to preserve the environment.

Since demand for fuelwood is increasing as its usage accounts for a considerable amount of energy used, this programme has limited success. Fortunately, Myanmar is blessed with different energy resources such as coal and agricultural residues and the Ministry of Forestry is doing some research on finding the substitutes to be used as alternative energy source.

At present Ministry of Forestry with mass participation is looking after eighteen sanctuaries and three parks comprising 1.14 percent of the total land surface area; establishment of eight more sanctuaries and six nature reserves are in process in line with the targeted objective of increasing the coverage of the protected area system to five percent which will then be increased to ten percent in the long term.

Conclusion

Development and promotion of tourism in harmony with nature and environment is a task beset with many problems for a country like Myanmar which even though possesses large natural resources is lacking in modern development. Given the limited capital available particularly in foreign currency component, current needs have to be identified and priorities have to be set accordingly. Therefore earnings from tourism may not be reinvested in the development of tourism related facilities but will have to be set aside for the development of other sectors of economy such as health, education, welfare etc.

Ecotourism even though it sounds great, has a tendency to spoil the very nature it promises to enrich if improperly and poorly managed. To prove this, we have many incidents to cite from the experiences of other countries in the region.

Therefore ecotourism without systematically and orderly planned, organized and implemented can be dangerous and self-destructive. The most important element is the human resource and only with the mass participation of the local people, will the desired objectives be achieved.

Myanmar is aware of these implications and has decided to meet the challenges we face in a responsible and sustainable way that conserves and preserves the natural scenic beauty and environment and safeguard our cultural heritage seeking ways and means to obtain international assistance in our march towards regional as well as global partnership in the promotion and development of tourism.

Myanmar Forests Based Ecotourism-Integrating the People and Nature

Introduction

Last few years, increasing recognition on the value of ecotourism cum nature tourism as a means of giving opportunity to visit diverse natural and cultural destination to foreign and local visitors, the people from developed countries seek to spend their vacation and leisure at the most fascinating tropical and sub-tropical environment. Most of the forests lie in the Asia-Pacific are the potential sites and centre piece of ecotourism. East Africa, South and Central America, and South and South-East Asian countries have demonstrated that ecotourism is economically viable and income generating mechanism to national and local level. Forests based nature ecotourism can be expressed as one form of land use. Protected areas system embracing diverse array of ecosystems, species, unique biogeographical features, landscapes and culture diversity have attracted nature lovers for sometime. The accrued benefits derived from the ecotourism offer positive social and economic impact to the local community through direct and indirect employment opportunities, educational, health and income generating programs. Thus, ecotourism is an effective tool to persuade the rural people to cooperate and work with the park and forest managers to protect and conserve the biological resources which had been used traditionally since the memorial time.

Forests based ecotourism in the form of non-consumptive use values not only serve as a protective shield to the fragile forest ecosystems and wildlife habitats, the unspoilt forest covered watershed, recharge the acquifers and provide sustainable water supply for human use and agriculture. Forests not harvested as productive use values outweighed the revenue obtained from the physical exploitation of forests and it provides betterment of climate, purification of water and air, storage and supply of fresh water, protection of flood and erosion, biodiversity conservation, tourism, local community development and life support system for the present and future generation.

Travel and tourism, one of the world's largest industry with the tremendous potential growth, can contribute the substantial income to national and local economic scenerios of the countries in Asia. Awaring the tourism has caused environmental issues and cultural pollution in the past, forests based ecotourism has emerged as a environmentally friendly new forest product. If appropriate measures to safeguard the natural areas are not cautiously taken, it can damage the forests and the culture of the local community.

Ecotourism

The terms ecotourism and nature tourism are perceived by most of the people in the same sense. Ecotourism is tourism managed with nature based ecological conscience to make viable and sustainable natural ecosystem. Nature tourism, on the other hand, nature is the attraction and it includes adventure tourism, such as, mountain climbing, jungle walk, hand gliding etc. (Wan Sabari, Wan Mansor). In general, although nature tourism is to view and fascinate the naturalness of the tropical forests, specific interest of the visitors can be provided with birds watching, coral reefs, cultural and religious, sites closed to the natural areas.

Income derived forest based ecotourism can be accounted as the non-consumptive use values of biological resources which support the goods and services to the people through ecological functions. Normally, these values does not appear in the national accounting system. The indirect accrued benefits generated from the protected areas system outweighed the productive use values of the forests by physical exploitation of the forests.

Experience in ecotourism business indicate that the non-consumptive economic values of the forests and wildlife offer a viable economy of the country. In Kenya, foreign exchange earned from the nature tourism based on the Kenya's system of protected areas give the significant contribution to the country economy. Each lion in Amboseli, National Park has been estimated to be worthéd about \$27,000 per year and a herd of elephant is worth \$61,000 per year, earned from the games watch and nature tourism. The revenue, \$40 earned from one hectare of wildlife sanctuary in Kenya, is 50 times the optimistic projection of agriculture. (Western, 1984). Ecotourism can yield maximum monetary return and create employment opportunities to the local people, while preserving the naturalness of the forest in perpetuity and allowing the traditional social-cultural life of the local community who has been living in and around the forests in harmony with the nature. There are evidences that the economic benefits generated from forest based nature tourism surpasses the revenue obtained from timber harvest.

Myanmar Forest Management-instrumental to nature and wildlife conservation

Myanmar Forest Management, practiced for nearly 140 years, has been recognized as an environmentally sound and sustainable forest management system by the international forestry circle. It is the nature conservation oriented forest management, and the vital instrument that harmonized the forest conservation and timber harvest, giving least disturbances to the forest ecosystems. Fifty percent of the forest cover of the total land area, 37% of closed forests and 14% of partially degraded forest, depicted from satellite imagery of 1990 forest resource survey, demonstrated that Myanmar Forest Selection System could conserve the forests and its environment, although it has been under the pressure of shifting cultivation and firewood crisis, which are the common forestry issues in developing countries.

Though the outcry for forests and wildlife conservation has gained prominence at the international circle during last few decades, forests and wildlife conservation measures taken by Myanmar Kings in mid 19th century was evident by the promulgation of teak as royal tree and designating the environ of royal Mandalay city as wildlife sanctuary. Myanmar's long history in forests and wildlife conservation with a record service of nearly one and half century period could preserve its nature and sustain the biological benefits to the present generation while maintaining the needs and aspiration for the future generation. Myanmar renewable natural resources has been harvesting with three basic policies: the sustainable use, forests and wildlife conservation and environmental protection. Integrated forest conservation oriented objectives and local community development action plans contained in Myanmar Forest Management are inconsistent with the key steps of the world conservation strategy.

Recognizing the crucial role of people participation in forest protection, access to the traditional uses of forest resources has been provided by the formation of Local Community Supply Forest Working Circle in the Myanmar Forest Management. Adequate long logging interval, appropriate natural forest cultural treatments and low level timber harvest pertained in Myanmar forest management system attribute the conservation of key ecosystems and species while sustaining the forest yield. Application of environmentally benign logging by elephant in Myanmar Forest Selection System gives least disturbances and detriments to forest ecosystems and maximum economic benefits. In the context of the environmental conservation and sustainable development, Myanmar forests are managed with natural system, modified natural system-Myanmar Forest Selection System, and Forest Plantation system.

- The natural system, a net work of protected areas, representing the true examples of diverse ecosystem and species at sub-biogeographic regions are established to serve as a genetic reservoir to support the life supporting systems to the present and future generation. The last but not the least, Myanmar Forest Management also aims to generate the indirect benefits from the protected forest areas in general and forests based ecotourism in particular.
- Myanmar Forest Selection System in the form of modified natural system is a silvicultural system to manage the forests with the objectives of environmentally sound and sustainable development through people participatory approaches and environmentally friendly elephant logging, in order to give minimum disturbances and detriments to forest environment and wildlife habitats.
- Forest plantation system, Artificially forest regeneration method, is aimed to meet the growing socio-economic need of the country by planting appropriate tree species at denuded and degraded forest lands to attain forest yield from minimum unit area, to prevent the environmental catastrophes and to reduce the pressure on natural forests. The integrated functions of the three systems, interdependent on each others, are crucial for a healthy forest management to achieve a protective value and productive use value of the forests.

Ecotourism- integral part of Protected Areas System

Unusual endowment of the diverse array of species and ecotourisms signify Myanmar as one of the richest biological resources in Asia. The land area of Myanmar, 261, 228 sq.-miles (676, 577 sq.- km) is extending from latitude 10° N to 28° N and longitudes 92° E to 102° E with the altitude ranging from sea level in the south to snow capped Kha-Ka-Borhazi mountain (6096m) in the north. Since it forms a land corridor linking Indian , Indo-chinese and Sundiac sub-biogeographical region. Myanmar is also unparalleledy riched in species diversity. The diversified ecosystems contain unique geophysical landscapes, marine and coastal ecosystems pertaining mosaic coral reefs offer a degree of choice in the establishment of protected areas system. It gives a tremendous potential development for forests based ecotourism. In the diverse forest ecosystems, approximately 7000 plants have be recorded of which 1071 species are endemic to Myanmar. Presence of recorded 1000 bird species (12% of world total), 300 mammal species and 360 reptiles in Myanmar are the evidence of its richness in biodiversity. In addition about 68 swallow-tail butterflies , representing 12% the world total, make the fifth richest country in the world. Myanmar is in the best position of still having large areas of natural forests, from which to select protected areas and still not have much pressure for land use as in other parts of the world. Myanmar is taking an environmentally cautious approach to

forests destructive development programmes rather than facing the disastrous ecological consequences of inadequate forest conservation measures.

A few years ago, realizing the harvesting of the productive use values from the forests impair the naturalness of the forest lands on one hand and cause loss of biodiversity on the other, Myanmar started forming Protected Areas System in 1981. The primary goal is to conserve the national and internationally important key ecosystems, species, unique geophysical feature and cultural sites. It is also aimed to generate the non-consumptive use values from forests based ecotourism and recreational activities by preserving the aesthetic qualities of the areas and natural landscapes which characterised the harmonious interaction of land and man. During 1981-83, biogeographic survey and assessment was carried out to identify the significant biogeographic features and priorities for conservation. Giving priorities on the unique characteristic biogeographical features of the identified areas, some of them have been managed under the protected areas system to set aside exclusively for conservation of critical ecosystems and endangered wildlife species and to develop forests based ecotourism cum nature tourism to integrate the people and nature for the sustainable futures.

It might be said that, the wildlife sanctuary at the environ of Royal Mandalay City, decreed by King Mindon in 1859 was the earliest wildlife refuge area in Myanmar. It aimed to preserve the beauty and naturalness of the area on one hand and prevent the loss of indigenous wildlife species and habitats on other hand. Thus, it was the legacy of Myanmar, they cherish the nature and wildlife.

Myanmar is strongly committed to biodiversity conservation in general, species and ecosystem conservation in particular, by the formation of new nature and wildlife Conservation Division in 1981. Myanmar has signed and ratified the Biodiversity Convention, to take actions in accordance with the articles of the Biodiversity Convention, for the conservation and sustainable use of biological resources.

A few years back unprecedented stress on degradation and loss of biodiversity at the forest lands have been subjected to the extensive conversion of forest areas to agricultural, indiscriminate cutting for firewood, and rural development programmes. Awaiting the crucial importance of biodiversity conservation as the life support system for the present and future, to preserve nationally important landscape and to support the identity of cultures and rights of indigenous people and forest dwellers, while providing fair and equitable benefits derived through income generation mechanism of nature tourism, are of the integral objectives of the protected areas system.

Since 1918, sixteen wildlife sanctuaries have been established with the objective of protecting wildlife species in their respective areas. During 1981-1983, natural area assessments had been carried out to identify the biological significance and priorities for the conservation of critical ecological sites. By paying due consideration on the demographic pressure, crucially important ecosystems and endangered wildlife species and potentiality for the development of nature tourism, integrating the local people for sustainable future, two national parks, one nature reserve and one wildlife park have been established.

Myanmar aims to include 5% the country area under protected areas system in short term and 10% for long term. Almost forty percent of the country area represents as closed

forest, contain broad biogeographical diversity, from tropical rain forest associated with Malayan fauna in the south to snow-capped mountain with a Himalaya fauna in the north, is enough to capture the Myanmar's biological diversity-

An examination of the distribution of current protected areas shows that it still needs to contain some representative examples of major ecosystems in the country. At present, protected areas are over presented at Myanmar Dry Zone (biounit 9a) Central Indochina (biounit 10a), Northern Indochina (biounit 10b), and Myanmar Coast (biounit 4) although these are critically under the pressure from agricultural encroachment, logging and poaching. There is a need for reserves in Eastern Himalayas (biounit Hd), Myanmar subtropical (biounit 9b), Assam-Myanmar transition (3c), Indo-chinese Coast (biounit 5a) and Malayan Transition (7b) to contain a wide range of altitudes and habitat types because with a diverse fauna, species densities are often low and a large area is required to protect population of viable size. Particularly in the northern region of Myanmar-Eastern Himalaya biounit Hd and Myanmar subtropical biounit 9b, shows significant differences in species distribution and forest types from the rest of the country. and it is suffering from unprecedented illegal hunting because of the transboundary attractive lucrative wildlife trade .

Protected areas provide a natural background to mankind ecosystem. Interaction between the living organisms result the natural ecosystem. In the world today, unprecedented destruction of species and ecosystems, caused by unsustainable methods of biological resources by human, Appropriate and suitable methods of utilization and conservation must be reconciled through research and people participation in the areas of natural resources and environment. Annual global deforestation rate, about 17 million hectares of tropical forests may result 5-10% of forest species may extinct in next 30 years. From time memorial, man has been dependent on these species for survival. Resources of wild species constitute as nature rich treasure house. Species thought entirely useless in past time, found to be in high values in medicine, agriculture, forests and biotechnology.

At present an average of one species is becoming extinct daily, and some species were wiped out, before the benefits to ecosystem and economic benefits have been known and also, some of the species are on the brink of extinction before being identified. If the present situation is left unchecked, the total number of existing species is likely to be diminished by the end this century.

The formation of protected areas system will conserve the existing species and ecosystems. Protected area provide an out-door natural laboratory for scientific experiments. Integrated ecosystems, plant communities, wildlife and their natural habitats in protected areas proffer basic scientific research and it serves as an out-door museum for educational purpose. National park, integral part of protected areas system is the centre piece of nature tourism. Ecosystems, rare animals and plants, unique geophysical features, landscapes and indigenous tribal culture diversity exist in land around national parks will be the focal point of tourist attraction. Accrued benefits from the ecotourism of protected areas will contribute substantial income to local community and national economics.

Ecotourism-integrating the people and nature for the sustainable future

The overall message from the Earth Summit held in Rio de Janeiro, Brazil, 1992, was that the local people must be integrated in environment and biodiversity conservation to ensure the future sustainable development. The statement of Principles on Forests quoted, "Forest policies should support the identity, culture and rights of indigenous people and forest dwellers. Their knowledge of conservation and sustainable forest use should be respected and used in developing forestry programmes. They should be offered forms of economic activity and land tenure that encourage sustainable forest use and provide with an adequate livelihood and level of well-being ". Although the out-cry of integrating the people and biodiversity conservation had gained prominence at Earth Summit, right and privilege of rural people and dwellers, access to the forest resources, have been provided in Forest Law. One of the salient features in Myanmar Forest Law, empowering the forest officers to compound the forest officers, could be expressed in terms of strengthening the forest conservation awareness to the indigenous people, rather than taking punitive actions.

Any nature conservation measures will not work unless local people know from the start, they will share the equitable benefits and unless they help protect their biological resources which has been traditionally used by them since the time of their ancestors. It is prerequisite to allow the access to the biological resources to the people in and around the forests. Protected areas management will only be successful by generating the income to the local people in nature tourism development programmes. The protected area authorities must see the needs of the people participation in the long run, it is the people who will play a key role in forests and biodiversity conservation. There must be defined policy on people participatory approach in forests and biodiversity conservation to ensure the participation and involvement of local people in protection of the biological resources.

Law enforcement and policing the protected areas with guards will not be successful if it lacked effective institutional support from the people. Forest and wildlife law will fail if they do not match the socioeconomic reality of the people. When the people see they have no rights and privileges to use the biological assets on their lands and cannot share the tangible benefits, they will not bother to protect or conserve the natural resources.

More importantly, strengthening the institutional capability of local people through training and educational programmes could contribute the management and inventory of biodiversity. Local monitoring of an ecosystem is the best way of encouraging the local population to value their biological resources. Basic training on land assessment, plant, bird and mammal identification and inventory to local community will particularly assist in monitoring biodiversity conservation. Involvement of people, by sharing equitable benefits and providing the access to biological resources, is imperative in biodiversity conservation.

Potential Sites for Forests Based Ecotourism

Ahlaungdaw-Kathapa National Park

Location and access : Located at a distance of 160 miles west of Mandalay and can be reached by motor vehicle through fair weather road during December to May.

Physical description: The first National Park of Myanmar featuring least disturbed forest ecosystems habited by diverse array of terrestrial mammal, reptiles and birds. Breath taking unique geophysical features of water falls, streams, centuries old nationally important religious monument sites, elephant ride, bird watch and jungle walk offer a relatively potential destination for forests conservation consciousness oriented visitors. General topography of the park is characterised by hills ranging from 670 feet to 4260 feet.

Vegetation: It contains almost intact forest ecosystems and signified by the presence of best teak associated with other premium hard wood, and orchids. The forests are the important water storage for the down-stream watershed areas. The plant life of astounding diversity within the National Park, with the wealth of giant teak and hardwood trees in lush deciduous and evergreen forests to be found in the park is incredible.

Wildlife: Presence of elephant, guar, banteng, sambar, tiger, leopard, civets, bear, wild dog, serow and forest birds are the main attraction for the visitors. Ahlaungdaw-Kathapa wilderness area is riched in wildlife, although they are seldom seen due to the thick forests and wariness of humans.

Poppa Mountain Park:

Location and access : Poppa Mountain Park situate in the central part of Myanmar, 40 miles from Myanmar's cultural heritage site Pagan, can be reached by air, railway and motor roads.

Physical description: Poppa mountain, the unique geophysical land monument of Myanmar, the vital water resource of Kyet-Mauk-Taung water reservoir and the people of Kyaukpandaung township, is the oasis of dry zone. Estimated 320,000 years old dead volcano rising solitarily in degraded forest land remained as the last foot-hold of dry zone ecosystem. To Myanmar, Mount Poppa is Mount Olympus of ancient Greeks and Fujiyama of Japan. 4981 feet high Mount Poppa is the important place of culture, religion and history of Myanmar. The panoramic view of Poppa mountain and its satellite massif volcanic plug, will enchant the visitors.

Vegetation: The herbs, climbers and plants at Poppa have been regarded to contain high medicinal value for the use of indigenous medicine. Predominantly, it embraces xerophytic species covering with dry forests with patches of evergreen vegetation. The vegetation of Poppa is uniquely characterised by the presence of fragrant saga flowering tree (*Michelia champaca*), which gives the spiritual inspiration to the local people. Activities at Mount Poppa include mountain climbing, nature walking, horse ride,

birdwatch, excursion, panoramic dry zone sunset viewing, photographing, visit to environmental education centre and picnic recreational sites.

Wildlife: Recorded mammal species include thamin (*Cervus eldi thamin*), barking deer, wild pig, Assamese macaques, Phayre's langur, and jungle cat. There is also an abundance of small wild life, including squirrels, weasels and hares. More than one hundred bird species have been recorded.

Shwe-Set-Taw Wildlife Sanctuary (213 s.q miles)

Location and Access: Shwe-Set-Taw wildlife sanctuary, nationally important religious heritage place, situated on the west bank of Ayeyarwaddy can be reached by land roads after crossing Ayeyarwaddy river at Pyay and Magway. Annually, the three months long Shwe-Set-Taw pagoda festival draw a large number of pilgrims from all over the country to pay homage to most sacred foot prints of Lord Buddha, laid during his missionary travel, more than 2500 years ago.

Physical Description: The sanctuary, in the midst of Dry Deciduous Forests and Low Dry Dipterocarp Forest, located on the extreme western edge of the Dry Zone. It was designated in 1940 and managed with park system in 1986. Buffer zone management came into force in the year 1992 to protect the core area after evicting the forest encroaches from the cultivated, farmland and intensively used forests of Conservation Area. Lush forest cover of the sanctuary is the main water source for sustainable water supply to Mon and Man river which are the vital irrigation system to the surrounding communities.

Vegetation: Predominantly, Dry Deciduous Forest cover at the upper ridges of the sanctuary and low open type scrub Dry Dipterocarp Forest at flat and undulated topography characterised the vegetation of the sanctuary. Low monsoon rainfall of 25 inches and high diurnal temperature during summer influenced the vegetation and agricultural pursuits.

Wildlife: Species of large mammals include, thamin, guar, banteng, serow, sambar, hog deer, wild pig, bears, wild dog and primates. Being one fourth of the sanctuary is occupied with open scrub vegetation, ideal habitat of thamin, Shwe-Set-taw Wildlife Sanctuary is particularly designated to conserve thamin which is endemic to Myanmar. By effective protection from poaching and habitat destruction, the trend of thamin population has been increased last four years. In 1993, star turtle endangered and rarely found in some Asian countries was found at Shwe-Set-taw Wildlife Sanctuary. The true example of Dry Deciduous Forests of Shew-Set-Taw Wildlife Sanctuary containing least disturbed teak and its associated premium hardwoods like padauk (Myanmar rose wood) pyinkado and other tree community display their roles much essential for being a perfect wildlife sanctuary. The open dry Dipterocarp Forest provides a potential valuable conservation area for thamin.

Chat-Thin Wildlife Sanctuary: (104 sq. miles)

Location and Access: Situated 100 miles north of Mandalay can be travelled by train all the year round, but with motor vehicles in dry season only.

Physical Description: The general flat configuration prevails over the most part of the wildlife sanctuary. It receives about 50 inches of erratic rainfall. The presence of open grassland and ponds provide good grazing ground for thamin and it contains relatively viable population of browed antlered deer than Shwe-Set-Taw Wildlife Sanctuary. A wetland annexed to the sanctuary constitute as a resting site for migratory birds.

Vegetation: Predominantly, the sanctuary is covered with high dry Dipterocarp and low Dipterocarp forests with patches of grasslands and water ponds. Due to plain forests with open undergrowth allow motor vehicles through trails in dry period.

Wildlife: According to latest population census of thamin in 1994, estimated about 1000 known to be the largest population in the world. During collaborative Myanmar Forest Department and Smithsonian Institute bird survey, finding of three dry zone endemic birds in Chat-Thin Wildlife Sanctuary will be the highest conservation value for the ornithologists. Existence of largest viable of thamin, virtually extinct outside Myanmar, coupled with the presence of three endemic dry zone birds will place Chat-Thin Wildlife Sanctuary as a site of the conservation of great value.

Inle Wetland Wildlife Sanctuary. (390sq.miles)

Location and Access: Inle lake together with Mong-Pai Lake make 390 sq.miles situate at Nyaung-Shwe township in Shan State. It is readily accessible by air and land route.

Physical Description: Inle is a highland wetland, shallow and bordered with marshland. in the valley of Balu river. As a natural water reservoir, it prevent the flood to down streams and recharge the water to aquifer during raining season and discharge the water to lower places through underground springs for the sustainable water supply to down streams in summer. The lake surface rises about 3000 feet a.s.l. The unusually splendorous beauty of natural landscape and boat rowing by leg at Inle Lake will fascinate to all the visitors. More over, the floating islands cultivated with agricultural crops, characteristic of the harmonious interaction of man and land and the only kind of land use in the world is the unique feature of Inle Lake. It also provide opportunity for public enjoyment within the normal life-style and weaving cottage industry of Intha.

Vegetation: At shore areas, water hyacinth (*Eichornia crassipes*) and aquatic reeds are extending to outer water areas after succeeding the primeval aquatic moss. The natural growth of hyacinth and reeds are influenced by the construction of vegetable floating garden by the local people. The forest cover on shores and hillsides are now virtually depleted and reforestation at catchment area of Inla lakes is going on with Myanmar and U.N.D.P joint development program.

Wildlife: Inle lake is of importance for national and migratory waterfowls. Effective protection in refuge area in Inle lake is called for the conservation of resident and migratory water birds. The endangered eastern sarus crane take refuge every year with other migratory and resident birds. Multipurpose bird watching house has been constructed to use as avifauna educational centre.

Mohin-gyi wetland Wildlife Sanctuary (35-39 miles)

Location and Access: Mohin-gyi wetland is about 60 miles from Yangon and mortorable through out the year along Yangon-Mandalay highway.

Physical Description: Mohin-gyi wetland is the man made water reservoir to inpond the headwaters of the Zwebat and Malaka chaungs to provide water for a canal linking the Sittang and Pegu rivers.

Vegetation: Marsh plant community contains lilies, aquatic reeds and grasses, and water hyacinth. Planted trees and shrubs grow on the bund.

Wildlife: According to annual counting of migratory and resident birds in winter reveals that the number of migratory bird species and population is higher than other wetlands. Mostly migrant waterfowls are waders and ducks. Most of the resident water birds are Asian open bill, painted stork and black-headed ibis. It is the best wetland site for waterfowl watching.

Lampi Marine Park (Approximately 65 sq.miles)

Lampi Marine National Park is not only an important place of Myanmar national heritage, it has also conservation value at regional and national level in terms of island and marine biodiversity. The combined marine and island ecosystem has retained its charm and naturalness. The nature of Lampi Island has blessed this land with diverse array of enchanting beaches with crystal clear sea water, coral reef and least disturbed island lush verdant forests.

Location and Access: After arriving to Kawthaung by air, it can be readily reached by mortot launch within 6 hours. Directly accessible by air from Yangon and Mergui to Lampi island if air strip is constructed on the beach.

Physical Description: Like the boomerang shape, Lampi island about 30 miles long is one of the islands dof Mergui Archipilago in Tanintharyi Division. The topography of the island rises to 1500 feet and hilly. The composite of beaches, bays, inlets, coral reef and islands offer an unparallel breath taking views to the visitors.

Vegetation: Lampi and surrounding islands are still covered with lush tropical ever green forests although it suffered from illegal logging last few years. Tall Dipterocarpus, Shorea, Dillenia and Podocarpus species are dominant. Fine stands of mangroves grow along the river estuaries while Casuarina, Dillenia and Calophyllum species extend along the beaches. Palm species are abundant and associate with cane.

Wildlife: Wildlife species on the island is less diversified than the mainland. Mammals are mouse deer (*Tragulus javanicus lampensis*), barking deer, civets and wild pig. Primates include crab-eating macaque and langur. Estuarine crocodile, two species of sea turtles, and dolphin present around the island. Avifauna of the islands are Hornbills, Nisobar Pigeon, White-bellied fishing eagle and Brehminy Kite (Allan Robinowitz-1995).

Ecotourism: The composite of unspoilt naturalness of island forests, beaches, marine ecosystem and coral reefs of Lampi National Marine Park will be the most fascinating ecotourism destination in Asia. The waters are crystal clear and offers a superb opportunity for boating, bird-watching, swimming, snorkelling and sunbathing for relaxation. It is a haven for beautiful corals, tropical fish, birds and other wildlife.

To avoid the negative impact on marine and island ecosystems, the marine park management is to strike a balance between the public awareness and appreciation on the value of marine park nature conservation and carrying capacity of the marine and island ecosystems. The overall management and development concepts are to harmonise the recreational activities within the carrying capacity of the marine park without impairing the marine and island environment.

Khaka-Bo-Rhazi: Hindu-Kush-Himalayan Region of Myanmar.

Location and Access: Northern biogeographic region of Myanmar, part of Hindu-Kush-Himalayan Region, extend 27 miles north of Myitkyina, at the confluence of the two branches of Ayeyawaddy to the frontier of Tibet. Access to this part of country can be made through Puta-O by air and thence climbing the rugged mountains. The summit of Khaka-Bo-Rhazi has not been conquered yet by any hiking team.

Physical Description: 6096m. high Khaka-Bo-Rhazi, peak enveloped with snow through the year, the most enchanting splendorous, is earthly worthed. The name Khaka-Bo-Rhazi is derived from Tibetan word and means "Snow White Mountains of Ridge" (Kingdon Ward-1953). It rank first in term of altitude compared with its satellite massifs. Hammi-kha (peak of Adung Valley, 15290 feet) and Diphuk-Ka (peak of Seingku valley, 14,300 feet). Khaka-Bo-Rhazi, accentuated in the midst of lush forests of northern Myanmar will be the best place for ecotourism. It will engender the mountain climbers and ecological conscious tourists with wonder. The region is traversed by gorges, ravines and streams.

Vegetation: The meteorological factor, most important for plant life does not vary greatly is the atmospheric humidity. Humidity is high except locally even in winter. Mostly, it never falls under 75 percent of saturation, and for long period is 90 percent or even higher. The rainfall varies within few miles and from year to year. Actually in the hills it is probably never less than 2500 mm, except in the far north. Temperatures are even more fluctuating and in the north, where the deep valleys and the high mountains exhibit great contrast. Summer rain is more than any part of the seasons.

The lower hills and valleys embraces lush tropical and sub-tropical evergreen forests in term of species and ecosystems that are found over greater part of the country. The high mountainous region is characterised by the presence of broad leaf evergreen

rain forests, sub-tropical and temperate rain forests up to 8000-9000 feet and the alpine vegetation above 11,000 feet. Although the abundance of high value medicinal plants which have been used in indigenous medicines is recognised by the local community, biodiversity inventory is not touched upon yet in that region.

Assessment and survey of biodiversity is called upon at the earliest time before it is diminished by the shifting cultivation, other form land use development and illegal trade. Mr. Kindon Ward, well known plant collector, whose tremendous work on plant collection and biogeographical zonations in most northern Myanmar still remain as a guide to classification of that region.

Wildlife: Not much on wildlife severity has been done yet, takin (*Budorcas taxicolor*), musk deer (*Moschus moschiferus*), Sumatran rhino (*Didermocerus sumatrensis*), golden cat (*Felis termmiki*), clouded leopard (*Neofelis nebulosa*), red panda (*Ailurus flugens*) red goral (*Naemorhedus cranbrooki*), etc. are few species recorded after learning from local hunters. In 1931, J.K Standard, then the Dy. Commissioner of Myitkyina listed 472 bird species.

Ecotourism: The majestic scenic beauty of northern region of the country signified by the presence of Myanmar highest snow-capped mountain (KhaKa-Bo-Rhazi-6096m.) is the sylvan heaven of rare and endangered wildlife species. The spectacular unexplored region deserve more emphasis as it will give peace and tranquility to the visitors. It is the destination which can give an rare opportunity to fascinate the richness of flora, fauna and landscapes.

Loss of biodiversity: Since wildlife management and protection is not enforced yet at Puta-O district, wildlife has suffered great loss through lucrative trade across the country borders. Different sizes of steel snares, imported from neighbouring country, made easy capture of all wild animals. The land-lock community who has low income from their agricultural crops has to resort to illegal hunting and collection of medicinal plants which return substantial earning from the lucrative wildlife trade at transboundary market.

Ecotourism, the tourist market comes to the producer, is the viable industry and the only mean which can promote the living condition of the indigenous people. Recognizing the accrued benefits of forests based ecotourism by the people living around the forests, they will collaborate with the Forest Department to protect the natural resources.

Nat-Ma-Taung National Park-(223 sq. miles)

Location and Access: Nat-Ma-Taung (10018 ft), the third highest mountain of Myanmar, commonly known as Mount Victoria situate at Kan-Pet-Let township in Chin State. Access to the nation park can be readily made when Saw and Kyauk-Tu air fields are opened.

Physical Description: Situated on the top of four ridges, Nat-Ma-Taung National Park is the vital water resources of Mon, Saw, Chi and Yaw streams which supply water to the local people for the agricultural and domestic uses. The unique geophysical feature is one of the factor that qualify the status of national park.

Vegetation: Four forest types cover the park. Dry Dipterocarp forests mixed with Dry Deciduous forests are found at low altitude and diverge into Sub-Tropical Moist Hill forests, Pine Forests and Sub-Tropical Hill Savanah forest at high hill level. Teak, pyinkado, padauk, thiya, ingyin and in are the dominant species in mixdeciduous forests and pine, Quercus, rhododendron and cherry confine at higher hills sites. Orchids and lichens are also abundant and small bamboo. (*Arundinaria racemosa*) grow in the meadow of high hills and ridges.

Wildlife: Endemism of avifauna species. White Browed Nuthatch (*Sitta victoriana*) and White-Tailed Nuthatch (*Sitta himalayensis*) at Nat-Ma-Taung are the centre piece of attraction for ornithologists. While the White-browed Nuthatch is the only species endemic to the park, Nat-Ma-Taung host several endemic bird species (Stressemann and Heinrich 1940). According to the report of Pamela C. Rasmussen of Smithsonian Institute, the White browed Nuthatch is the only species endemic to the area, and a number of other little known species only occur in Chin Hill (including Mt. Victoria) and very limited. Some have probably never been seen in life by any ornithologists. Mt. Victoria is also the only known locality in Myanmar, from which several species typical of the Himalaya have been recorded. In addition to these near-endemics, a surprising number of wider-ranging species of global concern to conservationists are found in this area. (Pamela C. Rasmussen-1995).

Common wildlife species are tiger, bear, serow, goral, sambur, barking deer primate, etc. Due to habitat destruction by logging and shifting cultivation coupled with poaching the population of wildlife is dwindling.

Ecotourism: Ecotourism development will reduce the pressure on traditional land use of shifting cultivation which cause habitat destruction. Accrued income generated from ecotourism will persuade the local community to protect the park. Income generating mechanism must be developed through agro-forestry, cottage industry, livestock breeding and watershed management, to let the local community to collaborate with concerned authority to protect the park.

Sustainability of Ecotourism

Ecotourism or Nature travel is growing at an estimated rate of 30% annually, to enjoy the natural beauty, to view the wildlife and to experience different cultures. (Philip Hassrick - 1995). Protection of wilderness areas and regulating the growth of negative ecotourism impact is crucial for the sustainability of ecotourism. Sustainable ecotourism is to manage the natural areas without impairing the naturalness of the areas concerned and it is also to sustain the monetary returns and employment. On the other hand it is crucial to conserve the existing social-culture life style of the local community living around the ecotourism site. According to many case studies, negative environmental impacts are happening at some parks of African and

Asian countries. There are restricted natural areas within the park, which are biologically sensitive and no intervention is to be allowed.

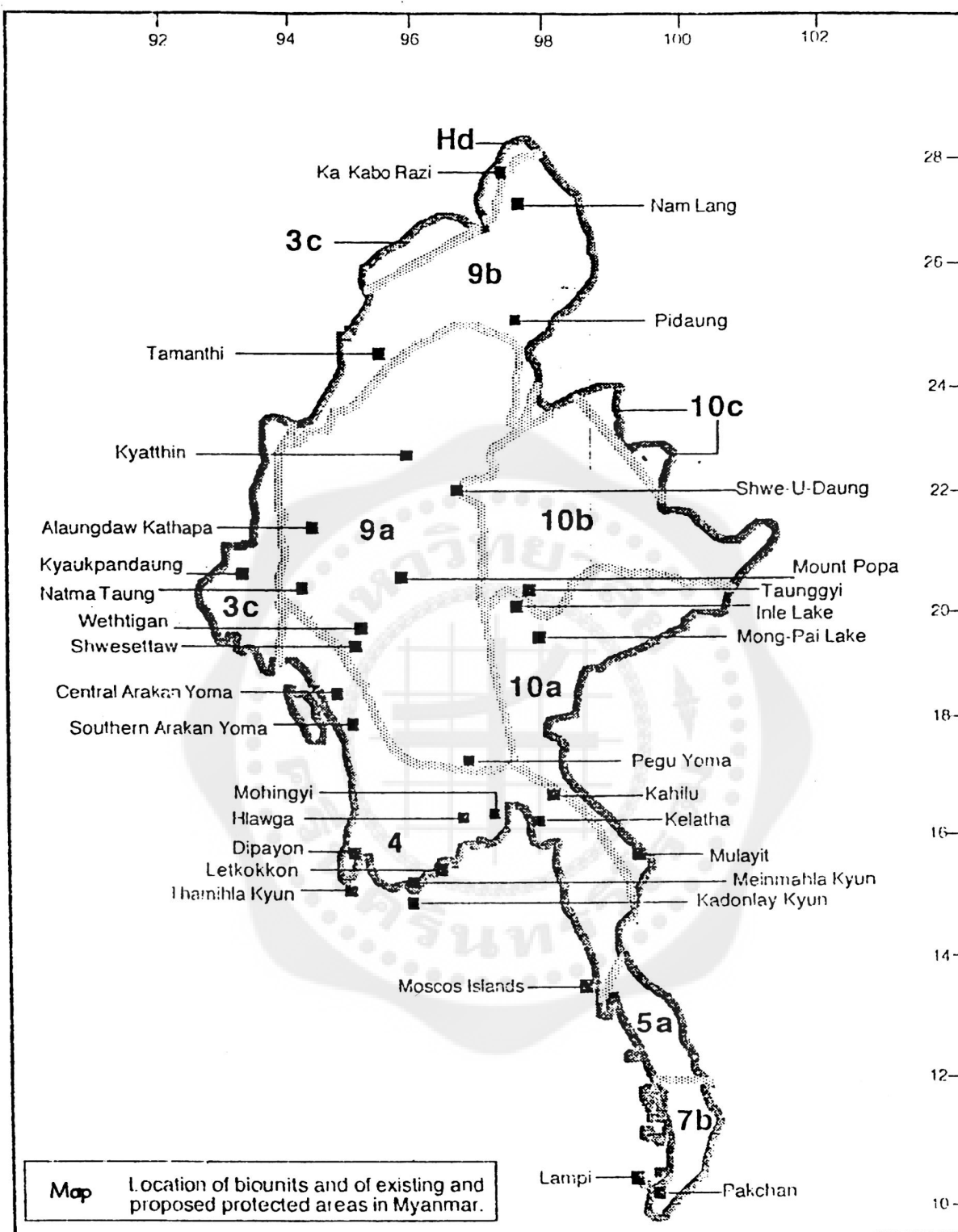
The concept of ecotourism is not to promote tourism regardless of the environmental damages but to encourage the compatible recreational use of the parks within their carrying capacity. Development of ecotourism must be approached with a management plan that does not cause irreparable damage to the naturalness of the park and to strike a balance between the intensity of recreational activities and sustainable carrying capacity of the park. Since the objective of ecotourism is to preserve and enhance the undamaged state and productivity of the environment, it is imperative to regulate recreational and other activities in order to avoid the irreversible damage to the naturalness of the park. Development of Myanmar forest based ecotourism will be processed with environmental conscientiousness to avoid negative impacts at the wilderness area of the parks and the culture of the local community.

Conclusion

Myanmar is one of the richest biological reservoirs in Asia and enormously embraced with diverse array of species and ecosystems. The nature reserves, national parks and wildlife sanctuaries for the protection and preservation of critical areas are the source of ecotourism. The enchanting splendourous scenes, richness of flora and fauna constitute a part of the national heritage as ancient Pagan and other cultural monuments, of which the people are so proud of in essence, serves a variety of purposes giving aesthetic, cultural, economic and ecological benefits.

With the aim to protect and conserve the flora and fauna, the present protected areas system coverage 1.07% of the country will be increased to 5% as a short term goal. Recognizing the people involvement is a key in nature conservation, their cooperation will be achieved through sharing fair and equitable benefits derived from ecotourism. Forest based ecotourism will be the integral scenario in the development of protected areas.

The cause of resurgence and commitment on forest based ecotourism, unprecedented resounding achievement in the era of forestry, is primarily attributable to the devotional arduous effort of H. E. Lt. General Chit Swe, Minister, Ministry of Forestry.



ECOTOURISM IN KHAO SOK NATIONAL PARK

Paper presented at the 2nd International Conference on Ecotourism, "The Implementation of Ecotourism planning, developing and managing for sustainability." Institute of Ecotourism, Srinakharinwirot University, Bangkok, Thailand, July 18-21, 1996.

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Introduction.

Khao Sok National Park straddles the central mountain ridge which separates the east and west coasts of the Thai peninsula. Covering 738 square kilometres of virtually pristine tropical evergreen forest, the reserve comprises part of the largest continuous protected forest area in the south. This provides the only viable habitat in southern Thailand for large mammals needing extensive areas of undisturbed forest for their survival. Khao Sok is also important as it shelters part of the major watershed of the region.

Since the park was established, in 1980, Khao Sok has been drawing nature loving tourists in small numbers (Dowling, R, & Hardman, J, 1995). Although attracting more and more visitors, growth has been gradual - figures for the financial year 1993/94 show 11,407 visitors to the park headquarters (Royal Forest Department, 1995). Visitors are attracted by Khao Sok's wilderness appeal and dramatic scenery of towering limestone crags emerging from lush forest, by its man-made lake which provides spectacular views of mist clad mountains, and by its rich biodiversity which includes several rare plants - most famously a species of rafflesia unique to this area and displaying the largest flower in Thailand.

Ecotourism Promotion and Plans.

Nature-based tourism has been carried on in Thailand for some years. However, uncontrolled development of the industry has seen many negative impacts (Gill, T & Satyanarayan, S, 1995). Examples in National Parks include controversy in the 1980's over TAT's construction of a resort and golf course inside Khao Yai National Park and the finding of dead deer in the park which had eaten golf balls. Coral destruction in Koh Phi Phi Marine Park and overcrowding in Ao Phang Nga Marine Park have also occurred.

Attempting to overcome problems created by unsustainable development of nature-based tourism in the past, TAT has recently drawn up new policies and guidelines for the development of sustainable tourism (TAT, 1995). It has also commissioned various reports to investigate the ecotourism potential in Thailand, and to investigate possibilities for alternative forms of tourism (Griffith University 1995). One comprehensive feasibility study has recently been completed, headed by Dr. Surachet Chettamart from the department of conservation at Kasetsart University. The report identifies more than 100 potential ecotourism destinations categorised into low, medium and high potential areas. Within the high potential group, including 16 identified sites, Khao Sok National Park has been recommended as the most ideal location for the development of the ecotourism industry. Khao Sok has been chosen as an ecotourism pilot project for the future development of the industry in Thailand. (Kasetsart University 1995).

Several factors contributed to this choice including:

- Khao Sok's distinctive and beautiful landscape,
- The health of the park's ecosystem and high biodiversity providing potential for the development of an educational component for ecotourism,
- Khao Sok's location near major tourist areas,
- The fact that the local community already practice ecotourism to some degree stimulated the belief that ecotourism development would be ideally placed in Khao Sok. (Kasetsart University, 1995).

The report suggests the park could be developed for a wide variety of ecotourism activities such as bird watching, trekking and boat tours. TAT has approved this plan and allocated 12 million Baht for the financial support of ecotourism developments at both Khao Sok National Park and also the non-hunting zone of Khao Pra-Bang Khram Thung Tio in Krabi province.

Khao Sok's higher profile has been followed by increasing promotion of the Park as a tourism destination. Various travel journals and magazines have run feature articles on Khao Sok. English language publications include Action Asia, Phuket magazine and Sawasdee (the Thai Airways monthly in-flight magazine). Several international television channels have also advertised the Park as an ecotourism location.

The growing interest in Khao Sok has inevitably led to an increase in visitor numbers to the park. While TAT is fostering ecotourism in order to increase the numbers of tourists to Thailand, the ongoing management and protection of Khao Sok's natural environment continues to be the responsibility of the National Park Division of the Royal Forest Department. It is they who have felt the impact of increasing pressures on the management of their resource.

The rest of this paper will concentrate on the situation regarding tourism in Khao Sok touching upon some of the ways the National Park is dealing with these impacts.

Tourism in Khao Sok National Park.

Most tourist activity is centred around the park headquarters which is easily accessible, only 1.5 kilometres from the main Surat Thani - Phuket highway. There are also two park patrol bases on floating raft houses providing accommodation for tourists at the lake. These provide a base for guided treks into the forest with park rangers.

There are two distinct visitor groups to Khao Sok; Thai tourists and international tourists. Thai tourists generally visit Khao Sok on day trips or weekend breaks, to relax and socialise close to the

park headquarters, or at the lake. Larger groups use park facilities for conferences and youth camps. The majority of Thai overnight visitors stay in park accommodation which, at the headquarters, consists of four dormitory style bungalows accommodating up to thirty people in total; larger groups camp in the park campground. Domestic tourism is concentrated in the dry months, January to April.

Ecotourism developments have tended to be focused on the second group: international tourists. These visitors arrive all year round, although there is a peak season in the dry months. They usually travel in small groups to trek and to experience the tropical rainforest environment. The majority of foreign visitors stay in the various private bungalow resorts outside, but close to, the park boundary. Private resorts are specifically aimed at foreign guests. They are small scale operations with a mix of local and outside investors and about 50% of staff are locally employed. At present there are a total of eight private resorts offering a range of standards and room rates. The smallest resort can accommodate twelve people, the largest up to thirty people.

There are several tour companies operating trips to Khao Sok. They stay an average of two nights, making use of the private resorts and the park floating raft houses on the lake. Their tours include elephant rides and canoe trips which take place outside the park boundary as well as jungle treks in the National Park - usually with their own guides.

Khao Sok does have a team of rangers that accompany large Thai groups on forest treks, and they run environmental education programmes with games and songs. However, at present, the use of park guides by foreign tourists is minimal, partly because private resorts and tours provide their own guides, and partly due to lack of training and English language skills.

From the point of view of safety, enforcement of park regulations, environmental interpretation and education, the Park hopes, in future, to be able to provide Park guides to accompany foreign groups into the forest on a more regular basis. In fact in July 1996 Khao Sok held its first guide training programme for thirty five park staff and several local guides from the private bungalow resorts.

Sessions were held on the following: flora and fauna; park regulations and enforcement; leading a guided walk; first aid; and basic English language skills.

The park has a medium sized visitor centre at its headquarters where tourists can orientate themselves towards the main features of the park and gather information on activities and facilities. This past year and a half the park has spent time improving visitor displays both in the visitor centre and at the two park floating raft houses where tourists stay. As a large majority of tourists are foreign, information has been built up in English - previously all information was in Thai. Interpretation has been developed in those areas which seemed to be of most interest to visitors, such as geology and wildlife specific to Khao Sok, attempting to use a range of techniques from artwork, photographs, written text and diagrams, as well as some 'life' exhibits. The emphasis is on an educational approach with proposed exhibits on current research that is being carried out in the area, and the building up of a library of environmental texts and studies. The visitor centre also provides binoculars for loan and has visitor book and wildlife log books for visitor input which have proved very successful. There is also a half hour slide show available for viewing.

From the headquarters there are a number of forest walks covering about sixteen kilometres of trail. These are clearly marked and easy to follow without a guide, maps are available at the visitor centre. With increasing numbers of visitors the problem of environmental impact along trails has become apparent. An example of this is at the site of the rafflesia. Despite fencing off, the area has been so trampled by visitors wanting to get close to the flower to photograph it, that this year no new buds have been found. While it cannot be confirmed that this is totally due to tourist impact, at present, the trail leading here has been left uncleared to allow for possible re-establishment of the plant. Obviously by providing park guides the National Park hopes to minimise these kinds of problems in the future.

For the present, for those visitors looking for more detailed information about Khao Sok's ecosystem - its forests, river systems and wildlife - a self interpretive trail has just been set up. Thirty numbered posts, placed along four kilometres of trail, correspond with information in an

accompanying book which is sold in the visitor centre. Half the proceeds of its sale, purchased through the visitor centre, goes towards environmental conservation and education efforts in the Khao Sok area. It is partly directed back into the visitor centre to produce more materials for visitors, and partly to a new association which has recently been set up - the Khao Sok Environmental Protection and Tourism Association (KSEPTA).

Khao Sok Environmental Protection and Tourism Association held its first meeting in January this year and now meets once a month. It brings together Park superintendant, some park officers, bungalow operators and local tour guides. The creation of this forum enables participants to share ideas that will benefit the National Park and local community as a whole unit. The group hopes to be able to take action to direct the growth of tourism at Khao Sok in an environmentally sensitive and responsible manner, taking into account the needs of National Park, local tour operators and local villagers. Days are still early and it is to be hoped that motivation and enthusiasm can be sustained as this association has, potentially, a very valuable contribution to make to development here. Future projects the group hopes to involve themselves in include a 'clean up' campaign dealing with issues of waste disposal, and environmental education programmes with local school children. As the increase in tourism will have a major impact outside the park boundary, where the National Park has no control, it is hoped that this group might be able to influence or direct new development by the community pressure of cooperation.

With the increasing promotion of Khao Sok as a tourist destination there has been little control over marketing content. Several problems have arisen because of this. Romanticised articles build up visitors images of 'Tarzan and Jane' fantasies. Often upon arriving, guests find accommodation is not as promised and tours are still in the planning stages and have not actually 'got off the ground' yet. Many are disappointed that tigers are not 'peering out of every bush' and elephant are not 'drinking at each swimming hole'. The fact that the chances of seeing any large mammal are extremely slim is rarely mentioned in publicity material.

Another effect of intensified promotion is the sudden appearance of tour buses. Arriving in large

groups of forty or more tourists, with three to four hours to spend in the park, no guide, and no orientation, foreign visitors wander into the park, avoiding the visitor centre through lack of time, unaware that there are any park regulations. Problems have arisen through littering and also visitors collecting wildlife specimens. Again, hopefully this issue can be addressed by the provision of park guides for these groups. Another solution is being sought through TAT funding, with the drawing up of a new site plan for the headquarters area which will direct all visitors through the visitor centre before they go out on the trails. Here they can be informed of park regulations and given basic orientation to the trail network. TAT funds will also cover the setting out of a two-three kilometre circular interpretive trail with interpretation boards planned for the park headquarters area.

Effects of Ecotourism Developments on the Management of the National Park.

As the promotion and marketing of Khao Sok as an ecotourism destination continues, it is important to take a step back and reconsider the resources needs themselves, and how far the objectives of the National Park are being compromised, if at all.

National Parks were set up:

1. To preserve and protect the natural environment in its original state.
2. To provide a resource for scientific research and education.
3. To provide a setting for recreation.

The principal role of the staff of the National park is to protect the resource. Although tourism is provided for the intention is that this is not at the expense of the natural environment which should be conserved in its natural state as much as possible.

There is still very little scientific research carried out in most National Parks in Thailand, and Khao Sok is no different in this respect. Without a full inventory and understanding of the natural resource it cannot be managed and conserved wisely, and interpretation will inevitably be deficient. Khao Sok still has problems of poaching and if this is not addressed urgently, and with great effort, it may be too late for many endangered species.

At present there are eighty-one National Parks in Thailand. As more parks are being established, funds and manpower are being spread more thinly and officers are expected to take on increasingly diverse duties, from maintenance and forest protection to hosting tourists.

Ecotourism plans concentrate on interpretation and site planning. Waste disposal issues are not adequately addressed (indeed one of the park's floating raft houses still discharges raw sewage directly into the lake) and local community participation has been neglected - fortunately however in Khao Sok, the tourism community themselves have taken on responsibility, forming their own action group (KSEPTA).

If ecotourism is being developed for the benefit of the economy rather than a genuine concern for the environment, it represents only a superficial change from the past. As more tourists travel to Khao Sok and more development takes place outside the park boundary - where the National Park has no control - it is still unpredictable what scale of impact will occur.

This is not to suggest that tourism does not have a role to play. It is an extremely valuable aspect of environmental education. Foreign visitors to Khao Sok have commented that experiencing this tropical rainforest environment has stimulated a greater understanding and appreciation of complex environmental ecosystems, as well as having a lot of fun in the process (National Parks Division, 1995). Tourist impacts at Khao Sok are still relatively low and the local community - to some small degree - are benefiting through employment at bungalow resorts and as guides.

It is hoped that the impact of increasing numbers of visitors does not mean that park officers are pressured into neglecting the essential duties of patrol and protection of the resource. It is here that one of the greatest challenges lies for National Park management.

There is great scope for the National Park and TAT to work together. Tourism can potentially increase revenue, building up the parks limited funds. But management of this natural resource should not be unevenly promoted and implemented. Plans need to be in progress to increase

protection of the resource, increase scientific knowledge of the area, and to work alongside the local community. These management aspects form the foundation for National Parks and without them ecotourism cannot be sustainable.



Conference Evaluation

Each participant completed a formal evaluation of the workshop and submitted this during or immediately after the final session.

A preliminary analysis of evaluations provided by the participants (see following) reveals that the majority viewed the workshop as :

- | | |
|--------------------------|--|
| ● VERY GOOD | in satisfying the participants' personal needs for professional development |
| ● VERY GOOD | regarding the printed material provides |
| ● EXCELLENT | with respect to the organization and execution |
| ● VER GOOD | regarding usefulness of information |
| ● EXCELLENT | in terms of the usefulness of printed and other materials for future professional activities |
| ● VERY GOOD | in terms of an overall evaluation of the conference |
| ● VERY GOOD to EXCELLENT | regarding usefulness to tourism development |

Most participants said they would consider participating in future conferences. The same people also thought that the subject matter of current conference would be beneficial to other individuals in their institution or country.

The following topics were list as "most interesting"

- The Approach to Ecotourism in Thailand
- Ecotourism and Its Role in Sustainable Development
- The Implementation of Ecotourism in Australia
- Environmental Impact Assessment for Tourism Development in Australia
- Sustainable Tourism Development in Cultural World Heritage Sites-Case study HUE
- Project to Project and Restore the Historic Town of Levuka-Fiji
- Tourism Transitions and Professional Interventions :
The asian Landscape and Ecotourism
- Community-Based Tourism and Marine Park Managemnt:
Forging a Sustainable Partnership
- Environmental Guidelines for Coastal Tourism Development in Tropical Asia
- Regional Ecotourism Strategies
- Resource, Energy and Water Conservation by Hotels and Other Tourist Accommodation at a Major Pacific Rim Tourist Destination Ralf
- Ecotourism Education : The Important Ingredient of Ecotourism Development
- A Method for Strategic Planning of Community-Based Ecotourism: Search Conference Technique
- Environmental Performance Audit of Raft and Kayak Adventure Ecotour Operators
- Desirable Future and Action Plan for Ecotourism in the Asia and Pacific Regionl
- Ecotourism and Sustainable Development in Australia
- Training of Local Ecotourism Guides for a Sustainable Development:
The Case of Taman Negara Malaysia National Park
- Ecotourism in Micronesia
- Women's Roles in Environmental Sustainable Development
- Lessons Learned from Implementation of Ecotourism in Annapurna Conservation Areas
- Development of Ecotourism in Protected Areas in Peninsular Malaysia and Its Management Stewardship
- Ecotoursim in Khao Sok National Park
- The Ecotourism Establishment in a Samll Island : Ka Taen
- Environmental Considerations for Protection of Marine Eco-System in Developing Countries
- Siam Safari Nature Tours
- Hornbill Studies in Thailand
- Environmental Impact assessment (EIA) as a Comphonent of Ecotourism in Thailand
-

The conference resource persons considered that the conference had fulfilled the immediate objectives, but noted the following :

- Additional time should have been allocated for discussion amongst participants and with resource persons
- Incorporate more input from Thai people
- Include field trips showing best practice examples of ecotourism
- Provide for morning lectures and afternoon workshop
- Include different business sectors
- Establishing a research agenda like SEA sian carrying Capacity, SEAsian Ecotourism Ethics, SEAsian Education on Ecotourism Program
- A SEA sian network to inventory the present knowledge of ecotourism
- A SEA sian Tourism Ministry/Department evaluation based on the result of the conference

CONFERENCE EVALUATION

1. More Thai input-more Thailand speakers.
2. Translation of topics from Thai to English.
3. Field trip evaluation could be carried out in open session after the trips.
4. A 5 day conference with 2 days field trip, final day evaluation, summary and recommendations.
5. Conference function or cocktail party early so people can get to know each other.
6. Regional newsletter for Asian Region.
7. Operators to speak more eg: John Gray and Robert Grifenberg
8. Conference Director to speak early in conference to tell people about the Institute and its vision in the future.
9. Suggest that conference venue be outside of Bangkok and in remote rural area and with an environmental friendly accommodation eg: ecolodge eg: Phuket.
10. Conference there, location and venue to be organised one year in advance.
11. Too many Australians.
12. Focus the theme of the conference to a smaller area eg: Marine Ecotourism, or Practical Ecotourism - In Asia.
13. Keep field trips more ecologically oriented.
14. Keep panels small and always include Thai and Asian participants.

OVERALL CONCLUSIONS

- The conference was a valuable learning and awareness raising experience for the participants
- The Conference demonstrated that this Topic meets an important regional need in an effective manner
- The conference is an efficient mechanism for other agencies and organizations to familiarize educators and trainers with their activities and should be transferred this awareness and understanding to key people in the public and private sectors
- The conference is an effective means for identifying and developing materials and aids that can receive widespread distribution to tourism institutions in the region

International ecotourism conference in Bangkok

HORIZONS

TRAVEL AND LEISURE SECTION

THURSDAY JULY 4, 1996

By Thanin Weeradet

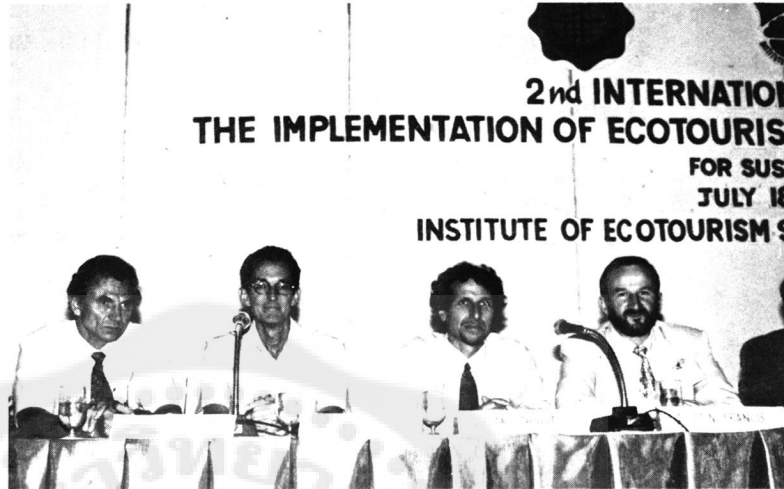
EXPERTS in ecotourism from Australia, the United States, Thailand and a number of other Asian countries will meet from July 18-22 in Bangkok to discuss ways to plan and manage sustainable tourism.

The international conference, the second of its kind, is being organised by Sri Nakharinwirot University's Institute of Ecotourism, along with the Tourism Authority of Thailand, The Ecotourism Society of the United States and the Ecotourism Association of Australia.

The first two days of the conference, at the Ambassador Hotel in Bangkok, will feature speeches and round-table discussions. On the following two days, delegates will take field trips to Kanchanaburi and the Pattaya-Rayong area.

Conference topics include examinations of ecotourism in Thailand and Australia; environmental impact assessments; sustainable tourism development at World Heritage sites with a case study of Hue, Vietnam; coastal tourism in tropical Asia; environmental management for tourism accommodation; and strategic planning for community-based ecotourism.

Keynote speakers include: Costas Christ of the Ecotourism Society USA; Ross Dowling of the University of Notre Dame; Gerald Krause of the University of Rhode Island; Alan White of the Coastal Resources Management Project in the Philippines; Richard Engelhardt of UNESCO; Ralf Buckley of Griffith University in Australia; Betty Weiler of the University of Newcastle, Australia; and Cathleen Neelan of Neelan Resources USA.



2nd INTERNATIONAL
THE IMPLEMENTATION OF ECOTOURISM
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While in Kanchanaburi, participants will visit the JEATH War Museum, the Bridge on the River Kwai and the Death Railway. They will also raft along the river to the storied Kang Lawa caves, and visit a Mon village.

The Pattaya-Rayong visit will feature a visit to the Khao Khieo open zoo, Bang Saen Beach and the aquarium at Burapha University. They will study the improvements made to Pattaya's beach, and Novotel Rim Pae Resort in Rayong as a model of eco-resort management. A boat trip around Ko Samet and studies of coastal development at Mae Pim and Mae Rampaeng beaches are also scheduled.

Representatives have also been invited from Malaysia, Nepal, Pakistan, Cambodia, Laos, Vietnam, Burma and China to discuss tourism and environment-related issues in their countries.

TAT Governor Seree Wangpaichitr and his deputy, Pradech Phayakvichien, will discuss the planning of "eco-towns and eco-cities". Anant Sirisan, president of the Association of Thai Travel Agents, and John Gray of Sea Canoe will join the panel discussion.

For more information contact the Institute at 252-7048, 252-7055, fax 254-4599.





Institute of Ecotourism

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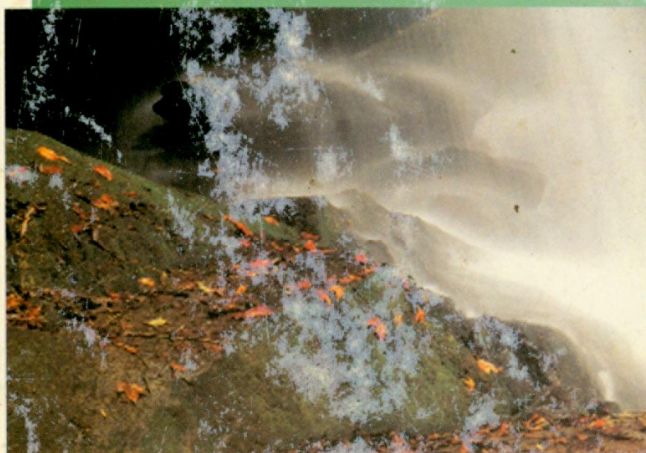
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Ecotourism, as a logical component of sustainable development, requires a multidisciplinary approach, careful planning, both physical and managerial, and strict guidelines and regulations that will guarantee sustainable operation. Only through intersectoral involvement will ecotourism truly achieve its goals. Governments, the private enterprise, local communities, and nongovernmental organizations all have an important role to play...

Hector Ceballos-Lascurain



Photos By Damrong Julathawornsup

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