Alternative Practices to Overcome the Environmental Problems in National Park

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Abstract

Tourism industry is the major sector in business world today. It is fair to say that tourism is now one of the world's fastest-growing industries. In 2010, the Middle East and Asia had the massive growth of tourists. Many countries rely heavily on the industry with the hope to boost up their national and local economy. For that reason, they attempt to promote their tourism by developing new tourist destinations that are different from others. However, it is vital for all tourism stakeholders; government sectors, non-government sectors, private sectors also local people to concern about impacts from tourism activities. Many host destinations often neglect the fact that a high number of tourists not only enhance their economy but also induce environmental impacts on those destinations. Since, park tourism has increased in recent years and it is likely to create negative impacts, even on a protected area. Yet, protected areas have immense value in educational, recreational, and ecological terms. In order to tackle the negative impacts appropriately the impacts first have to be understood.

Keywords: Tourism Industry, National Park, Impact, Environment, Visitors

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Introduction

The extensive growth that the tourism industry has witnessed in the past century has made tourism one of the most extraordinary economic and social incidents (WTO, 2006). Yet, it is also a sector that has the ability to create negative impacts upon a destination's environment and its culture, which are the resources of many tourism products (Cooper, et al., 2005). Furthermore, it is also generally assumed that the relationship between tourism and the environment is fundamental and there is a strong element of them being mutually dependent on one another (Shaw and Williams, 2002). This has led to a rapid take up of sustainability options and ecotourism, in order to secure this dependent relationship (Hunter and Green, 1995; Mowforth and Munt, 1998 in Shaw and Williams, 2002). In fact, Buckley (2003) sees ecotourism as a model of alleviating tourism impacts on the natural environment. National parks also fall under ecotourism; and Naturenet (2006) states that, national parks are ways in which tourism and the environment can be managed together. In fact, the number of national parks has been increasing as countries realise the threats of environmental impacts on forest areas.

Thailand is also another country that has many national parks. During the 1990s alone, Thailand had over 40 nationally protected areas, comprising of 12.6% of the country's overall area (Buckley, 2003). According to the DNWP (2004), in the year 2004 Thailand had 103 national parks and 251 other kinds of protected areas. The overall number of visitors has increased by as much as 13 million in 1996 to 15 million in 2002, generating as much as 272 million baht (Samabuddhi, 2003). Doi Inthanon National Park (DINP) is situated in Chiang Mai and is one of the most popular destinations for bird watching and nature study (Beltran, 2000), it is also the best mountain national park and the most popular national park in the northern part of Thailand (Thailand.com, 2004). The number of visitors to the park has increased very rapidly, by three-fold during a 10-year period from 1983-1993, from 312,000 to 936,000

visitors (DINP, 1993 in Beltran, 2000). However, according to DNWP (in Samabuddhi, 2003) limits of visitor numbers will be imposed to prevent further damages to national parks in Thailand. Many other national parks in foreign countries also suffer just as badly, for instance, the Sagarmatha National Park in Nepal suffers from environmental impacts, such as littering, deep erosion and expansion of park trails Nepal (2000 in Buckley, 2003). While in 2001, the Yellowstone National Park suffered from noise pollution created by snow mobiles as a result of the large amount of visitor numbers (UNEP, 2001). Subsequently, it is really crucial that the visitor induced environmental impacts are understood to a greater depth as to minimise the implications they may have on a national park, in order to maintain the ecological, biological, educational, recreational and environmental value of a national park.

Protected Areas and Tourism

As many authors agree, (Eagles et al., 2002; Davenport and Rao, 2002) protected areas have a long and detailed history. The first attempt at wildlife conservation started in India in fourth century B.C. (Davenport and Rao, 2002). Yet, the concept of protection of special places is universal and it happens within many traditions (Ceballos-Lascuráin, 1996; Eagles, et al., 2002). Hunting enclosures or game preserves existed within the Persian Empire, the Assyrian noblemen; while, China protected its wetlands of the Huang-Huai-Hai plain. Different forms of protected areas, for both cultural and resource uses (Davenport and Rao, 2002; Eagles et al., 2002) were also prevalent in Italy, Britain, and Russia. It can be seen that people have for centuries tried to find improved ways to live with nature (Davenport and Rao, 2002). Yet, in the past protected areas were mostly for the ruling class (Ceballos-Lascuráin, 1996; Davenport and Rao, 2002; Eagles et al., 2002), only later did these places become open to the public while also enabling protection.

However, it is believed by many that the "national park phenomenon" started as a result of the industrial revolution and the impact that it had on natural

landscapes (Davenport and Rao, 2002). The deterioration, pollution, and the despoilment of natural resources made people realise they had to preserve areas from over exploitation and for its existence for future generations. Thus, the most industrialised country of that time, the United States which at that time, the mid 19th Century, was also the country with the most remaining areas of un-spoilt nature, established its first national park, the Yellowstone National Park. Eventually, national parks were witnessed around the globe (Ceballos-Lascuráin, 1996).

The Definition of Protected Areas and (IUCN) Management Category System

Due to the establishment of national parks worldwide, there is a requirement by the UN that a list of national parks and protected area is kept. In doing so, standard definitions were established (Eagles and McCool, 2002). The IUCN defines a protected area as, an area of land or sea that is specifically devoted to the protection and maintenance of biological diversity, and of natural and related cultural resources, which is legally or efficiently managed IUCN, (1994 in Thomas and Middleton, 2003). In addition, Ceballos-Lascuráin (1996) claims that the creation of protected areas is the most universally adopted means of ecosystem conservation and/or pertinent cultural heritage for an extensive range of human values.

Protected areas are also categorized into six individual types, in accordance to their management objectives, the IUCN's Management Category System for National Parks and Protected Areas is based on ecological integrity with Category I having the highest level of ecological integrity because it has the lowest level of human impact (Eagles and McCool, 2002). The categories include:

Category I   *Strict Nature Reserve/Wilderness Area*—a protected area that is managed primarily for science and wilderness protection, with Category IA being a Strict Nature Reserve for science and Category IB being a Wilderness Area for wilderness protection

Category II   *National Park*—a protected area that is managed primarily for ecosystem protection and recreational purposes

Category III   *Natural Monument*—a protected area that is managed for the conservation of particular natural attributes

Category IV   *Habitat/Species Management Area*—a protected area that is managed mainly for conservation purposes through management involvement

Category V   *Protected Landscape/Seascape*—a protected area that is managed for the conservation of landscape/seascape and recreational purposes

Category VI   *Managed Resource Protected Area*—a protected area that is managed for the sustainable utilisation of natural ecosystems

In general, the most common form of protected areas is national parks. Nonetheless, a national park may have other categories tied to it depending on the management objectives utilized (Ceballos-Lascuráin, 1996).

Protected Areas at a Global Level

Currently, the protected areas tallied in July 2003 by Chape et al. (2003) contain 102, 102 protected areas altogether, covering more than 18.8 million sq. km. and is as much as 11.5 percent of the Earth's land surface area. While, only 1.5 percent is a marine protected area. Nevertheless, the number of parks and protected areas has been growing drastically since the 1900s. In 1962 there were only 1,000 protected areas covering 3 percent of the Earth's land surface (Figgis, 2006). The figure below illustrates the global increase of protected areas. Statistics also reveal that 67% of the world's protected areas have been assigned the IUCN management category, with the largest being Category IV and Category III, comprising of 47% of all protected areas in the world (Chape et al., 2003).

Figure 1 Global Increase of Protected Areas (1872-2003)
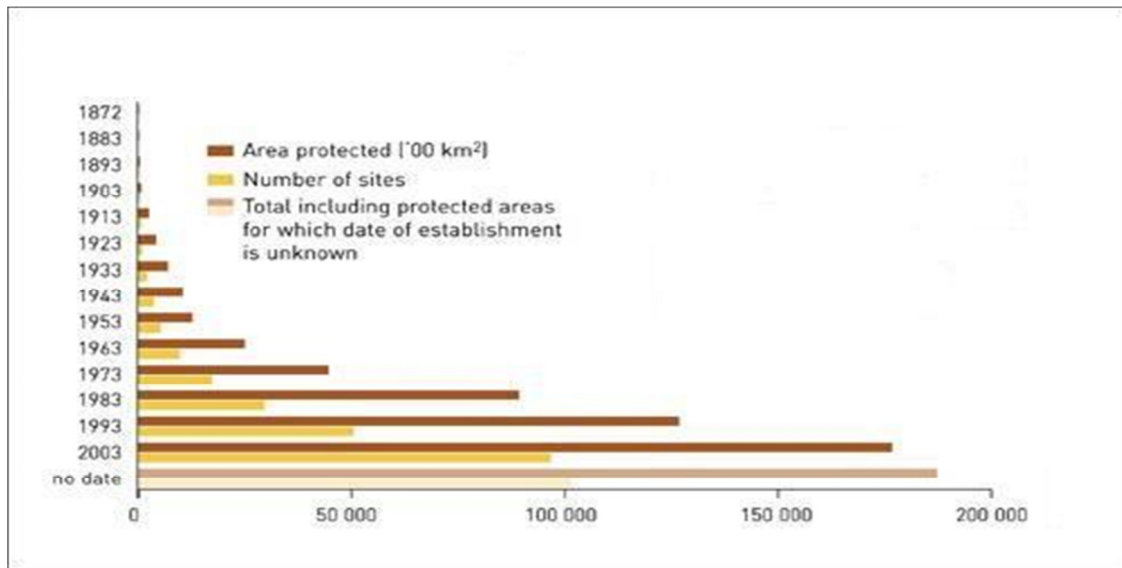
Source: Adapted from UNEP-WCMC, 2002 (in Lean, 2003)

The Growth of Tourism in National Parks and Protected Areas

Not only has the growth in protected areas and national parks increased, the number of people visiting these places had also increased dramatically in recent years. In fact, McNeely et al. (1992) proposes that with increased pressure of urban living and rising human populations, people have been encouraged to seek solitude with nature and that has led to an increase in visitor numbers. Subsequently, it is also worth noticing that nature based tourism and ecotourism have been growing significantly in recent years. Nature based tourism is a form of tourism that involves traveling to untouched natural areas with an objective of studying, appreciating, and taking pleasure in the scenery, plants, and animals, along with any existing cultural features (past/present) prevalent in these areas Ceballos-Lascuráin (1988 in McNeely et al., 1992). TIES (2003) define ecotourism as a form of responsible travel to natural areas that serves to conserve the environment while sustaining the welfare of the local population. Yet, it should minimize all impacts, raise awareness among locals and

tourists about conservation needs of cultural and natural assets, provide a pleasant experience for both locals and tourists, generate income and jobs for locals, as well as empowerment, increase understanding to host countries' social, political and environmental climate, and lastly support labor agreements and international human rights. Though sometimes ecotourism and nature based tourism are used synonymously, such as by McNeely et al. (1992), other authors such as Newsome et al. (2002) would argue that nature based tourism is a term that could be synonymous with ecotourism, but it lacks observable environmental interpretation and/or education.

Eagles and McCool (2002) affirm that ecotourism is believed to be the fastest growing tourism sector with great potential for increasing visitation to parks and protected areas. Moreover, Fillion (1994 in TIES, 2000) did an analysis of international inbound tourist motivations, in which he was able to identify 40-60 percent of all international tourists as nature tourists. Park and protected area visitation has increased worldwide, in Costa Rica park visitors increased by as much as 244% in a period of 14 years, from 250,000 in 1985 visitors to 860,000 in 1999 Baez (2001 in Eagles and McCool, 2002). The changes are observable in the United States, Canada, Kenya, United Kingdom, and many Asian countries (McNeely et al., 1992; Eagles and McCool, 2002). As more parks are created, more visitations occur. Subsequently, just as there is more acceptance of parks there is increased demand and that increases the opportunity for tourism which is witnessed at a global level (Eagles and McCool, 2002).

Nevertheless, tourism in parks or protected areas can become potentially problematic. It must also be considered that the idea of tourism is not exactly the idea of preservation. It is as what Wearing and Neil (1999) believe that there is a conflict between 'preservation and 'use', which is precisely what tourism in protected areas is. Tourism can create many impacts, positive and negative, yet, it can only be positive if it is managed appropriately and efficiently.

The Management of Protected Areas for Tourism

The planning and management of protected areas is discussed in details by many authors as by, Eagles et al., (2002) or Ceballos-Lascuráin (1996). Yet, for the purpose of this research only some aspects of the management theories are presented. Before any step is taken, it should always be remembered that the goal of tourism within protected areas is to conserve the environment, enhance the local community's quality of life, and to improve the product and services of tourism (Ceballos-Lascuráin, 1996). The first step that should be taken is to establish a "tourism management strategy", which incorporates determining the right level of tourism for a particular area, which has to corroborate with the purpose and value of the protected area in question. In order to have the right strategy, the current tourism situation has to be assessed, the desired scenario translated, and the level and type of tourism desired determined (Boo 1992 in Ceballos-Lascurin, 1996).

Implementing the strategy would involve planning and management. While planning dictates the management plan and decisions for distributing resources and such. Management provides a structure that attends to the daily operations required to meet the objectives of the plan Salm and Clark (1984 in Ceballos-Lascuráin, 1996). A management plan may vary but would typically include an establishment of management zones. Zones are crucial because they dictate where development can or cannot be located, examples of zone include: strict protection zones, wilderness zones, moderate tourism use zones, or development zones. The next essential element is conducting an in-depth study of tourism within the protected area, involving for example, an analysis of visitors, their expectations and pattern of visitation (Ceballos-Lascuráin, 1996). The making or adapting of certain facilities for tourism must also be made, for instance eating facilities or interpretation centres. Training programmes should also be provided for park staff, local guides, and tour operators. Partnerships should also be established with local authorities, communities,

and tourism entrepreneurs that want to work within the park. Concession agreements should also be made with providers of visitor services, other self-financing mechanisms include a contribution of the generated revenue from tourists services to the park. Management would also have to coordinate with the local communities and tour operators (Ceballos-Lascuráin, 1996).

Indigenous People in Protected Areas

Tourism is not the only dilemma park managers are faced with. Theoretically, parks are not supposed to have permanent residents living in them, other than people that work at the park itself. However, in reality this is not always the case and in many cases around the world, protected areas are inhabited by indigenous people. It is said that 70% of all parks in the developing world are confronted with a dilemma of people-in-parks (Terborgh and Peres, 2002). Indigenous people as defined by Cobo (1972 in UN, 2004) comprise of existing descendants of people who inhabited the present territory of a country entirely or in part at a time when other people from a different background arrived from other parts of the world, conquered them and settled there while reducing their status to a non-dominant or colonial condition; who today live as they would socially, economically, and culturally, rather than adopting the institutions of the country whom they are part of. Indigenous people can sometimes become very challenging to the concept of conservation. In fact, strict nature reserves, or protected areas that are part of the IUCN category system I, II, III refer to places with very low human interference. Having indigenous people reside within these protected areas are a contradiction to many national park and protected area systems (Terborgh and Peres, 2002). Terborgh and Peres (2002) argue that the best thing to have is a "people-free" park and this should always be the ultimate goal. They go on to say that though human presence may not be threatening initially, however to avoid any degradation of protected areas, controls on human populations within parks definitely have to be stopped.

Nevertheless, many would argue that there is a need to address local communities or indigenous people in park management, such as Borrini-Feyerabend et al. (2004) or Nepal (2000). The best way to approach indigenous people and communities within parks are not to expel them anymore and that is almost certainly not the ultimate goal. Yet, to make them abide by some rules while involving them in management which would be a solution to long term conservation (Nepal, 2000).

Visitor Impacts

The travel industry is an industry that is characterised by creating many kinds of impacts. In order to discuss the kind of visitor impacts that can happen, certain definitions would have to be considered. A tourist is a person who travels away from home to a place outside his/her common environment and stays there for no longer than one consecutive year and at the very least stays for one night for a variety of purpose WTO (1997 in Cooper et al., 2005). If the minimum length is not reached the person is referred to as a same-day visitor or excursionists (Cooper et al., 2005). The travel industry is characterised by having economic, social, and environment impacts, which can be positive, negative, or both.

The Economic, Socio-cultural, and Environmental Impacts of Tourism

At a positive outlook, tourism can be a good source of foreign exchange earnings and it can create economic prosperity in certain countries (Mathieson and Wall, 1982; Godfrey and Clarke, 2000). It also allows for cultural exchange among people or creates pride in people about their culture (UNEP, 2002; Cooper et al., 2005). However, it can lead to overdependence on tourism or even higher prices of local goods (Cooper et al., 2005; UNEP, 2001a), sexual exploitation may also be prevalent with the presence of tourism and sometimes cultural practices become commoditized (Cooper, et al., 2005; UNEP, 20001b). Nevertheless, it can be a form of conservation on the built environment, such as for the renovation of monuments or

historic buildings (Godfrey and Clarke, 2000; Cooper et al., 2005); it can also lead to the creation of national parks for the purpose of attracting tourists, consequently rescuing ecosystems (Shaw and Williams, 2002; Cooper et al., 2005). However, tourism can also lead to deterioration of water supplies or even shortages (UNEP, 2001) and subsequently leading to conflicts between locals and the industry (Holden, 2000; Hunter and Green, 1995).

Positive Environmental Impacts of Visitors and/or Tourists to a Protected Area

When visitors or tourists travel to a protected area, they are likely to create some form of impact which can be positive, negative, or both. According to Eagles et al. (2002), it can help raise funds for local communities and the protected area. It can help safe certain species of flora and fauna, such as how the gorillas in the Park National des Volcans in Rwanda are aided by the tourists that visit them through revenue generated (Mieczkowski, 1995). This is one important factor that should be an outcome of tourism initiatives to protected areas; otherwise it may defeat the purpose especially in cases where national parks were created to attract tourism. It may also help conserve certain watersheds and ecological procedures, protect biodiversity; comprising of gene, species, and ecosystem (Eagles, et al., 2002). In addition, it can enhance self-financing methods for the operations carried out in the protected area (Eagles et al., 2002). Mathieson and Wall (1982) also claim that, tourism helps introduce planning controls to sustain the quality of the environment. This is precisely what tourism can do in protected areas.

Negative Environmental Impacts of Visitors and/or Tourists to a Protected Area

However, the benefits are sometimes overstated. Many protected areas cannot cope with a large number of people because of their vulnerable ecosystems. Recreational activities, such as powerboats may also create disturbances to wildlife. At

other times, reckless tourists or visitors litter in protected areas, which can sometimes harm wildlife if consumed (McNeely et al., 1992; Newsome et al., 2002; Cooper et al., 2005). It may even introduce exotic species to the ecosystem. The utilization of vehicles within a protected area also results in death of wildlife, while driving off provided tracks can harm soil and vegetation. In fact, Kraus (1967 in Mathieson and Wall, 1982) carried out a research in a German national park, where he found a tremendous decline in hares, red deer, and roebuck as a result of increased road traffic. In addition, creating fire can lead to forest fires (Cooper, et al., 2005), habitat destruction, and wildlife mortality. Roads built within protected areas can also result in habitat loss (McNeely et al., 1992; Mathieson and Wall, 1982). At other times, people collect rocks, minerals, and fossils from protected areas as souvenirs. Trampling, camping, or horse riding may all cause soil compaction, which makes the land susceptible to increased run-off and erosion (Ceballos-Lascuráin, 1996).

Principles of Visitor Management and the Management Frameworks

It has been established that tourism to protected areas does create negative and positive impacts. With this in mind, there is definitely a need to manage the '*potential threats*' to the protected area. Farrell and Marion (2002) cite four factors as to why management intervention is needed to deal with visitor impact problems:

1. The protected area resource conservation approval could be compromised as a result of the impacts.

2. Impacts can happen with low usage level or at a very rapid pace even with an initial touch

3. Certain impacts aggregate, by gradually deteriorating resources over a certain period of time

4. Impacts may lead to unwanted outcomes, such as lower visitation numbers, economic profit or inducements to resource conservation

Hall and McArthur (1996 p. 37) defines visitor management as, "the practice of ensuring visitors achieve a quality sustainable experience; it is the management of visitors in a manner which maximises the quality of the visitor experience while assisting the achievement of the area's overall management objectives". Essentially, this denotes that the forest has to be kept exquisite in order to ensure visitor satisfaction. It is as McArthur (2000) argues that there is an inseparable link between a visitor's experience and the forest and that this definition personifies the essential need to keep this affiliation intact.

The Different Visitor Management Frameworks

Subsequently, many approaches to visitor management are adopted in different parts of the world and at different protected areas. The more traditional means to visitor management was through controlling visitor behaviour and access within the site, for instance, through opening times of the year, transportation, etc. (McArthur 2000). Nevertheless, for more than 20 years now, complex approaches have been utilised by park managers, such as through visitor research, interpretation programs, etc. (McArthur, 2000). Today, managers use different models that comprise of integrated approaches to management of protected areas. Models that have been utilised extensively around the globe include: ROS, LAC, VIM, VAMP, TOMM, and VERP (Eagles et al., 2002), and Carrying Capacity, details are discussed in (Appendix 1). The models were originally introduced for managing recreational use of forests, but they have increasingly been recognised and shifted into natural area based tourism (Farrell and Marion, 2002; Newsome et al., 2002).

The History of Conservation Measures and Protected Areas in Thailand

In Thailand the earliest official conservation measures started during 13th century by King Ram Khamkaeng [sic] the Great who created the Royal Dong Tan Park. Yet, conservation was eventually looked over until the establishment of the RFD in 1896 (IUCN 1992; ICEM 2003) which was created for the management and conservation of Thailand's forests (Panusittikorn and Prato, 2001; IUCN, 1992; Vessabutr, 2005). However, a fully conservation role took place with the ratification of the law governing the conservation of wild elephants in 1921 due to the declining elephant population (Panusittikorn and Prato; ICEM, 2003; Vessabutr, 2005). Then during the 1930s the declining rate of the forests and examples set by the US and Canada triggered the importance of the conservation of natural resources leading to the creation of the Forestry Act of 1941 (ICEM, 2003).

Nevertheless, the two key acts that determined protected areas and nature conservation were the Wild Animals Reservation and Protection Act of 1960 (WARPA) which is concerned with the establishment of non-hunting areas and wildlife sanctuaries, hunting regulations, wildlife trade control, and total legal protection for certain species, while the National Parks Act of 1961 dictates the administration and establishment of national parks (IUCN, 1992). Later in 1964 another law was enacted, the National Forest Reserves Act of 1964, which was passed to reinforce the previous two acts, and it defined two forest typologies: conservation and production. The non-hunting areas, wildlife sanctuaries, and national parks were mostly classified in this category, this act also officially legalised the status of forest parks (IUCN, 1992). In 1985, the Draft National Forest Policy was permitted which declared the policy of protected areas accounting of 15 percent of land area which covers nature conservation sites, watershed protection, research and recreation, national parks and wildlife sanctuaries, while the remainder was for productive use of timber and forest goods (IUCN, 1992). Nevertheless, logging was banned in 1989 and made permanent in

1992, also reversing the National Forest Policy by making 25 percent of land for conservation purposes and productive forest to 15 percent (ICEM, 2003). Thailand's first national park, the Khao Yai National Park was established in 1962 (Panusittikorn and Prato 2001). Further conservation acts were enacted in the following years. While, marine protected areas are governed by the Fishery Act of 1994 which is concerned with the conservation of aquatic flora and fauna along with their habitats, within marine parks and protected areas specifically (Vessabutr, 2005). (Appendix 2) demonstrates the different frameworks on biodiversity conservation in Thailand.

The Types of Protected Areas in Thailand

It must first be noted that the RFD has divided the national forest reserve estate into three zones the Economic Forest Zone (Zone E) (Appendix 3), Agricultural Zone (Zone A) (Appendix 3), and Conservation Forest Zone (Zone C) Jintanakl (1996 in ICEM, 2003). The Conservation Forest Zone (Zone C) is inapt for agriculture and encompasses current protected forest areas and forested areas that are minimally impacted by human activities. Zone C is under the management of the DNWP (ICEM, 2003). It encompasses all of Thailand's Protected Area Estate: national park, wildlife sanctuary, non-hunting area, biosphere reserve, class I watershed, botanical gardens, arboreta, conserved mangroves, and forest park. According to Sanguanwong (1995) national parks in Thailand are defined as a land that the government believes to have significant value of interest and should be protected for a sustainable ecosystem, recreation, research, and knowledge. It is an area that may have rare plants and/or animal species, stunning landscape, and of historical importance (ICEM, 2003). According to Virojphand et al. (2005) the purposes for establishing national parks in Thailand are, as follows:

A. Conservation and Protection—to prevent and fight against any form of illegal confiscation, destruction of natural resources and areas with high genetic composition.

B. Education—research and academic purposes

C. Sustaining an Area of Extraordinary Beauty—for recreation and relaxation

Sanguanwong (1995) describes that the purpose of visitation to national parks in Thailand is predominantly ecotourism because it is a form of travel to natural environments for appreciation, knowledge, relaxation, and to learn about the surrounding cultural influences. Sanguanwong (1995) deems that, the purpose of establishing national parks in Thailand is to permanently protect and maintain natural resources, to protect its beauty for recreational use while developing facilities for visitors, and a knowledge source through research and the study of natural resources. National parks and national marine parks are equivalent to IUCN Category II. Wildlife sanctuaries are preserved for the benefit of wild animal species, so that they can be conserved and bred in a natural environment (IUCN, 1992; ICEM, 2003). They are equivalent to the IUCN Category I. Non-hunting areas are for the protection of particular wildlife species, but are too minute to be a national wildlife sanctuary. They are usually defined by distinct features, such as lake area or temples, to protect for instance, nesting birds (IUCN, 1992) and are equivalent to IUCN Category VI (ICEM, 2003).

Areas that have no particular legislation, such as biosphere reserve are established for preserving the integrity and genetic assortment of plant and animal populations in their ecosystems. Class I watershed are established to protect vital watershed headwaters. Protected watersheds are equivalent to IUCN Category VI. Botanical gardens comprise of endemic and exotic plant species for ex-situ conservation and research (ICEM, 2003). Arboreta are a small scale botanical garden for a set of mixture of plant species, specifically flowering plants that have fiscal value.

Conserved mangroves are marine protected areas that prohibit utilisation to protect aquatic species. Forest parks are areas that are too small to be a national park but are conserved for its beautiful landscape and public recreation value (ICEM, 2003). Forest parks are equivalent to IUCN Category V (ICEM, 2003).

The Organisations and Stakeholders Involved in the Management of National Parks

Thailand does not have transparent polices or particular plans to the management of protected areas (ICEM, 2003). Protected area management is focused on site separation, guards and law enforcement, with the help of policemen and regional forestry representatives. All established parks also have permanent headquarters (IUCN, 1992). Protected areas are subjected to many policies and plans based on either a very common or resource-specific goal. The most important issue of concern in all the plans is the need for stakeholder participation, sustainable management of natural resources and its conservation, devolution, and independence (ICEM, 2003). Plans that dictate the development structure are created NESDB, MONRE are an agency for protected area management with implementation through DNWP, Office of Natural Resources and Environmental Policy and Planning ONEP is responsible for the overall environmental policy, the RFD are responsible for creating production plans surrounding protected areas, the DMC is responsible for the protection of coastal and marine areas, and lastly MOAC takes care of the production and marketing of agricultural products (ICEM, 2003).

Indigenous People/ Local Communities and Protected Areas in Thailand

In Thailand people that live within or surrounding areas of protected areas still utilise the resources that are found within the park, in some occasions there are 500,000 people within a protected area. The government's policy on communities within national parks has always been to prevent people from residing within the parks

and using its resources (ICEM 2003). Yet, in reality this has not always been the case and relocation has also proven to be difficult. Subsequently, conflicts between park management and local communities have always been inevitable. Today, it has been acknowledged that there is a need to work together with local communities to be able to achieve sustainable management (ICEM, 2003). Nevertheless, Srikosamatara and Brockelman (2002) deem that it is widely accepted in Thailand that protected areas and tribal peoples are in general incompatible. Arbhabhirama (1984 in Srikosamatara and Brockelman, 2002) states that, the elimination of wildlife and their habitats in the northern mountains is at large due to the existence of migrant indigenous peoples. The researcher believes that a collaborative approach may not be very successful, if it is to be successful populations within protected areas would have to stop rising, it would also mean that the government would have to provide them with a job that would give them adequate income to sustain their livelihood instead of using forest resources.

Challenges to Management of Protected Areas in Thailand

Thailand is faced with many challenges to the protected area system. Some of the main challenges that Thailand has yet to overcome are as listed below:

A. Currently, the management plan of protected areas is inflexible because it does not allow human settlement or using of resources sustainable. Thus, resulting in conflict between management and local communities. Moreover, the diversification of protected areas is also needed, to include all ecosystems sufficiently (ICEM, 2003).

B. There is also a need for a national level protected area committee to join the current national committees for national parks and wildlife conservation because all of the current committees need to be appraised, incorporated, and strengthened (ICEM, 2003).

C.   There is also a need for a site management committee in all protected areas, which should include members of key organisations, for instance TAT. They would provide consultation with regards to policies and issues, appraise and implement zoning scheme, dictate regulations, provide strategy for fire management, and other management activities (ICEM, 2003).

D.   Legally certified management plans have yet to be created (ICEM, 2003).

E.   Zoning schemes would have to be improved as they are not vigorously followed. There is also uncertainty and sometimes a conflicting nature of some zoning regulations, especially in marine and coastal areas (ICEM, 2003). According to TISTR (1999) the current zones include intensive use zone, outdoor recreation zone, primitive zone, strict nature reserve zone, recovery zone, and special use zone.

F.   Currently, zoning boundaries are unknown to local communities and there are still conflicts between local communities and management. The authorities may have to provide incentives and disincentives for conservation and utilisation (ICEM, 2003).

Challenges to the Management of Tourism and Protected Areas in Thailand

In a tourism context, ICEM (2003) believes that there are four main obstacles to tourism in protected areas. First, sometimes inappropriate facilities are suggested to be built in national parks in order to promote tourism. Yet, this is contradictory to the idea of national parks because it does not seek to conserve forests or wildlife. Second, local communities do not benefit from tourism, yet ecotourism should be able to benefit the locals. In fact, this may lead to economic inequality and socio-cultural problems may arise (ICEM, 2003). Third, the budget allowance and inapt skills for nature interpretation has also resulted in an inhibited building of visitor facilities and services. Lastly, protected area are used by many different stakeholders, but they have not been consistently regulated in the past which have created negative impacts on

protected area resources or even conflict among different stakeholders (ICEM, 2003; IUCN, 1992).

Conclusions

The conflicts between preservation and use is obvious, yet have been neglected. More importantly, environmental impacts induced by tourism activities have received very little attention. As a result, it can lead to disastrous consequences if improperly managed.

Earlier research undertaken by Khaosa-ard et al. (1997b) shows that there are environmental impacts witnessed in national park that are partially a result of tourism development and visitors. There has been a declining state of the ecological system at the top most part of the Mountain range, change in the ecology of the temperate wetland/moss bog in the area, seasonal tourism has also made it hard for the ecological system to handle the high rates of human intrusion, and people that dwell within the park also rely on the resources of the forests only exacerbating the situation.

However, there are also some other main environmental problem that many national parks are really facing with is rubbish. Moreover, degree of awareness of visitors plays important role here. Due to some cultural background that are not raised to be environmentally aware and may sometimes disobey easy rules such as littering, going off track into prohibited areas, plucking leaves. However, it is still obvious to affirm that tourism can lead to the invasion and destruction of forests because more land is needed to build the necessary superstructure to cater to tourists. Therefore, if tourism development is adding to negative impacts the national park should really consider not expanding attraction routes and sites without considerations and environmental protection procedures.

Nonetheless, another possible cause for creating the most detrimental impacts could be the park dwellers—the indigenous people because they are permanent. Though most of the time, they are temporarily exempted and allowed to live in the park by law, they have not been moved elsewhere yet. It probably is true that they create negative impacts more than tourists would since they are there through out the year; they also use the park's resources though they are not supposed to.

What the parks should do is to deal with the problems through strict rules and regulations, try to build an environmental conscience in people, and educate visitors. More importantly, certain parks should develop policies, such as: restrict visitor number, the number of cars allowed, offer shuttle bus service, assign appropriate zoning, offer bike hire and such. Moreover, providing information or educating visitors as well as the indigenous people is also vital. However, it is important to know when to stop in order to limit impact or prevent any further impacts.

To sum up, the environmental problems that are witnessed in the park various methods can be suggested to parks authorities for best practice in order to overcome the environmental problems that are either created by visitors or the indigenous people.

1. Management of parks should adopt a visitor management framework, such as VIM. VIM is precisely associated with visitor impacts and though it may not help forecast impacts at least it would make it easier for management to tackle the environmental problems. It would help maintain impacts at an acceptable level (Newsome et al., 2002) for DINP. In addition, some parks do not perform adequately in providing information about environmental awareness at the visitor centre. In fact, it is also not very welcoming. Thus, it should improve its visitor centre by making it more informative than it is.

2. It should also make visitation to the visitor centre mandatory so that visitors will be well informed about the park—its facilities, attractions, environmental

concerns, park value and importance. Moreover parks should have an interpretative exhibit through out the year, informing people of issues that are important to the park, Yet, some of the key points are to make it interesting, making people curious and making it relatable to the viewers. Veverka (1994) claims that, people learn better when they take part in the learning procedure and the exhibit should do just that. Nonetheless, the guidelines to interpretive exhibits should be carefully studied.

3. Some parks have their own websites. Therefore, it should request for volunteers on its website, for people to come help out at the visitation centre and to help out as a patrol person during high season. Nonetheless, there should always be a staff that is able to speak at least two languages: official language and English at the visitation centre in order to provide visitors with information and answer any questions that visitors may have.

4. Some parks do lack of interpretive signs at different visitor sites. If rubbish, for instant, is a major issue when it comes to tourists, then signs in the park should be seen more frequently dissuading them on littering or encouraging them to take their rubbish back with them.

6. It is also time for the management of parks to educate the indigenous people. They have to know and understand the environmental concerns before being able to contribute. If they know and understand, the next step would be to involve them in decision-making, for them to help generate ideas on how to tackle problems.

7. Total Quality Management (TQM) should also be considered in the park. The basis behind TQM is to have continuous improvement on quality and though it generally applies to business management it can be adapted and applied with tourist destinations as well. Its ultimate goal could be to have an "exquisite quality park" and working towards having that quality. This would involve every stakeholder, including the indigenous people, park management, and even the research institute.

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