

Assessment of the Existing Tourism-Park-Community Relationships: A Case Study in the Inle Lake Wildlife Sanctuary, Myanmar

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Abstract: Ecotourism is increasingly recognized as a community development tool with significant economic contribution. The ecotourism industry is experiencing increasing popularity as the demand grows for tourism that is environmentally sensitive, informative, and beneficial for local communities. Generally, Myanmar, as in other developing countries, has been promoting its 15 protected areas as ecotourism sites, and there have been only few studies about ecotourism and community development. In this research, Inle Lake Wildlife Sanctuary (ILWS) was selected as a case study in order to assess the current status of ecotourism, also to evaluate the existing tourism-park-community relationships and impacts at this site where it is being promoted as a regional development strategy. Through an evaluation of the existing tourism-park-community relationships, opportunities and constraints are identified. Ecotourism development was found to be at an early stage in the study area, despite only other types of tourism such as nature-based tourism and cultural tourism have developed as a main stream for many years. Tourism activity has not contributed revenues towards conservation to date and as a result tourism has yet to raise funds for management or conservation activities. Socioeconomic benefits for the local community have been limited. Controversial activities will come in the form of increased employment opportunities from the development of ecotourism. This is especially important because many of the threats arising from the need of the local community to use natural resources for their livelihoods. Further recommendations are offered for the policy planners both of the government and the administrative bodies, as well as for the local communities of the Inle Lake. These are followed by the additional suggestions for further studies.

Keywords: Ecotourism, Tourism, Protected Areas, Park, Community Development, Inle Lake Wildlife Sanctuary (ILWS), Conservation

INTRODUCTION

The Republic of the Union of Myanmar is geographically located in Southeast Asia between latitudes 9°32' and 28°31' N and longitudes 92°10' and 101°11' E, having the total land area of 676,577 square kilometer. Myanmar is bordered on the north and northeast by China, on the east and south east by Laos and Thailand, on the south by the Andaman Sea and the Bay of Bengal and on the west by Bangladesh and India. It stretches for 936 kilometer from east to west and 2,051 kilometer from north to south. Due to the combination and interaction of geography, topography, climate, pattern of seasonal rainfall, presence of high mountains and major rivers, Myanmar presents a great variety of different habitats and ecosystems supporting a rich biodiversity. The richness of biodiversity in nature and a lot of natural resources give a potential for ecotourism. The forest resource assessment (FRA –2010) conducted by the Food and Agriculture Organization (FAO) in cooperation with

the Forest Department of Myanmar has indicated that Myanmar is still endowed with a forest covered area of 47% of the country's total land area, which is one of the highest in the Asia-Pacific Region. Myanmar is endowed with a rich diversity of habitat types, arising largely from its unusual ecological diversity. Myanmar's diverse forests and green landscapes provide an ideal setting for nature-oriented ecotourism. Since Myanmar possesses unique and unspoiled scenic landscapes and interesting flora and fauna, many travelers are attracted to make nature sight-seeing tours, hiking, trekking, mountaineering, skiing, camping, photographing, swimming, boating, fishing, snorkeling, scuba diving, surfing, bird watching and other activities. The physical heritage, cultural expressions and biological environment of Myanmar are attracting more tourists every year (UNESCO, 2008).

For my study, Inle Lake, also known as Inlay Lake, was selected as a survey area because of its particular



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circumstances: it is the country's second largest inland lake, one of the unique tourist destinations in Myanmar, well known for its traditional life styles, famous culture and textile products, home to more than 170,000 people, a large bird wildlife sanctuary, and a major source of hydroelectric power for the southern part of Myanmar. Because of its picturesque setting and diverse fauna, as well as the unique lifestyles and traditions of its human habitants, the lake is renowned in Myanmar. The lake is also an integral part of the livelihood of the local people, who fish in its waters and cultivate a variety of crops on its floating gardens. Since long ago, their main livelihood activities involved floating garden agriculture, textile production, local gold and silver smiting, fishing and hiring motor boats to picking up and taking care of local pilgrims who come from other area of Myanmar and tourists from the other countries. Suddenly, the drought in 2010 has had a devastating effect on the Inle Lake. Due to unfavorable environmental conditions, their livelihood activities could not continue successfully and have had to change to the alternative options for their sustainable income. Gradually, the interests of local people have changed to engage with the local tourism industry. Tourism is one of the key activities that can either be a difficulty or an answer to the lake ecosystem conservation (Ismael Adebini Ingelmo, 2013). Currently, most of the people have participated in the local tourism industry according to their social networks and capital holdings.

LITERATURE REVIEW:

Tourism and parks have long had a connection (Boyd, 2000). In recent years, the relationships between nature and ecotourism, parks, people and economics have received heightened attention from academics, as well as both government and non-government conservation and development agencies in many nations (Nepal, 2000; Cresswell & MacLaren, 2000; Brandon, 1996; Wang, 1993; Boo, 1990). Some have even suggested that the relationships are reciprocal – tourism needs parks and parks need tourism (Ceballos-Lascurain, 1996).

Ecotourism has become increasingly popular over the last decade, both with conservation and development organizations looking for the means of generating an income from protected areas, and with tourists from the richer countries looking for new experiences. Most significantly, ecotourism is seen as an opportunity for local people living in tourism destinations to gain positive benefits from tourism development and the conservation of forest and protected areas (C.D Langoya and Catherine Long, 1997/98). The market for ecotourism, however, is

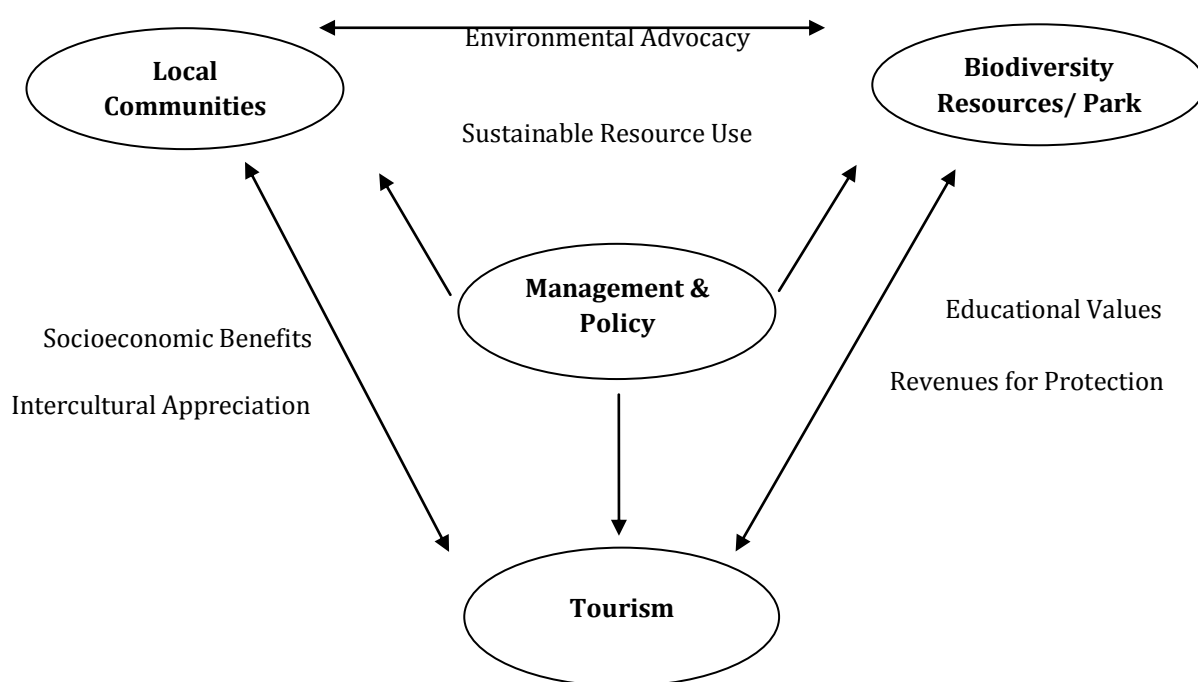
finite, and very susceptible to outside factors. Political instability, changes in fashions in the tourist-sending countries, and weather and natural disasters play a major role in the success or failure of a tourism development. For that reasons, we can see ecotourism as just one aspect of overall forest management, to be integrated with other forest uses, but one which can play an important role (Offutt, 1992). In order for an ecotourism programme to be a success, the implementers need to ensure that the benefits gained have an impact in the host area. All too often, tourism revenue 'leaks' away from the local economy back to the tourist-sending countries, and local community end up seeing little benefit (Brandon, 1993; Koch, 1994). However, when carefully planned and managed, an ecotourism development in a tropical forest can provide a sustainable return, much of which can remain in the local community (Horwich, 1988).

Ecotourism is one of the fastest expanding tourism markets. It has received much attention in developing countries and economically impoverished regions around the world. As an agent of change, ecotourism has been linked to sustainable development strategies and initiatives in many places. However, ecotourism can induce a variety of both positive and negative environmental, cultural and socioeconomic impacts at a destination. Operating in its ideal form (according to some), ecotourism provides the tourist with a quality nature experience, generates funds and support for conservation efforts, has minimal environmental impact and provides socioeconomic benefits to local host communities. While there is evidence that ecotourism's espoused benefits can be realized, there are equally as many, if not more, cases where ecotourism has fallen short of its proposed objectives. Indeed, ecotourism's impact has been highly variable. At the same time, some have criticized that there have been relatively few practical assessments of ecotourism's status at specific destinations (Micheal J. Stone, 2002).

Scheyvens (1999) presents an empowerment framework, which evaluates ecotourism based on signs of economic, psychological, social and political empowerment. Mitchell and Reid (2001) have postulated a community integration framework for evaluating tourism in terms of local control, ownership and decision making power. Lee and Snepenger (1992) demonstrate the utility of an ecotourism assessment procedure that compares existing site characteristics and impacts with those would be found in an ideal ecotourism scenario. Nepal (2000) provides a conceptual framework for considering the various interactions and processes

between tourism, parks and local communities, and that can be used to anticipate different tourism-park-development scenarios and outcomes. Ross and Wall (1999) have developed a framework that defines an ideal ecotourism development, and can therefore be used to both help plan, and evaluate the status of, ecotourism at particular sites. The framework employs a variety of indicators to determine if existing tourism-resource-community relationships are operating in a manner that allows each to make positive contributions to the others. Given the lack of practical assessments, there is clearly an opportunity to apply an evaluative framework to assess the current status of ecotourism, and offer planning

direction, at a destination where it is being promoted as a sustainable and balanced development strategy. In considering a variety of socioeconomic and environmental aspects of an ecotourism development, the Ross and Wall (1999) framework is most suited to the objectives of the proposed research and has therefore been adopted for the purposes of this study. The framework considers ecotourism in terms of synergistic links, and uses a variety of indicators to determine if existing relationships are operating in a manner that allows making positive contributions to the other. The review will serve as a basic for conducting of this study.



Source: Ross and Wall, 1999, A Framework for Conceptualizing and Evaluating Ecotourism

ECOTOURISM STATUS IN MAYANMAR:

Myanmar has an abundance of natural and cultural tourism assets, including 2,832 kilometer of coastline, the pristine Myeik archipelago, 36 protected areas covering 5.6% of the country, outstanding examples of religious and vernacular architecture, and a youthful population of about 60 million that includes over 100 distinct ethnic groups. Myanmar is currently becoming an emerging and fast-growing tourism destination in Southeast Asia. As a result of sweeping political and economic reforms, Myanmar is enjoying unprecedented tourism growth. For the first time in its history, Myanmar received over 1 million international visitors in 2012. The number of international visitors increased by over 30% compared to 2011. The total income from

tourism activity was \$ 534 million in 2012 compared to \$ 319 million in 2011. Although Myanmar possesses diverse and extensive cultural, natural, and historic assets, it has only begun to develop its enormous tourism potential. Due to the income- and employment-generating opportunities it creates, tourism is a global industry with special economic significance to developing countries (MOHT, 2013).

Additionally, one of the objectives of National Biodiversity Strategy and Action Plan (2011) states that "Development an ecotourism policy that ensures benefits for the local communities". Ministry of Environmental Conservation and Forestry has identified 15 Protected Areas as the ecotourism sites. Ecotourism sites are managed and controlled by the

Forest Department. Development activities including infrastructure improvement, supplementary introduction of native species, and establishment of buffer zones have been undertaken in order to enhance conservation, recreational and aesthetic values of the sites. The Alaungdaw Katthapa National Park, Popa Mountain Park, Shwesehtaw and Kyaik Hti Yo Wildlife Sanctuaries are the popular ecotourism sites due to the presence of ancient Buddha images and pagodas and also the presence of spiritual and cultural traditions. The Hkakarborazi National Park in the far north, Lampi Island Marine National Park in the far south, the Natmataung National Park in the north-west Chin Hills, and Indawgyi Lake Wetlands Sanctuary in Northern Myanmar are the high potential for future ecotourism development. Other groups of wildlife sanctuaries, such as Meinmahla Kyunin Ayeyawady Delta, Chatthin in Upper Myanmar and Moeyungyi Wetlands are interesting ecotourism sites for studying aquatic species, endemic mammals and birds. The National Kandawgyi Gardens (Botanical Garden) in Pyin Oo Lwin Township is also one of the attractive ecotourism sites. Among them, Inle Lake Wildlife Sanctuary in the Southern Shan State is the high potential for future ecotourism development (Forest Department, 2011). International tourists have visited Inle Lake in increasing numbers since the early 1950s, with a more significant trend since 1996 after the Myanmar government focused on increasing tourism (Akaishi et al., 2006). In 2001, the Myanmar government nominated Inle Lake as one of nine key sightseeing sites for the development of tourism. Additionally, the Lake was designed one of the Earth's 200 most valuable eco-regions in 1998 as well as being designated as ASEAN Heritage Site in 2004 (BEWG, 2011).

OBJECTIVES:

This study was carried out by focusing on the following issues:

- 1) To assess the current status of ecotourism in the study area.
- 2) To understand how much people rely on the Lake's ecotourism and how they have coped with the current status of ecotourism.
- 3) To evaluate the existing tourism-environment-community relationships and their impacts.

METHODOLOGY:

The research employs a case study approach and combines both, quantitative and qualitative methods for an effective assessment of the multidimensional impacts of ecotourism on various levels, such as individuals, groups of households as well as local pilgrims and tourists in and around the Lake. I

conducted my field research in two key ways. The first was secondary data collection and the second was field data collection.

Firstly, I made secondary data collection by gathering data from government organizations such as the Forest Department situated at Nay Pyi Taw and Nyaung Shwe, including its Nature and Wildlife Conservation Division, the General Administration Department at Nyaung Shwe, the Hotel and Tourism Department situated at Nay Pyi Taw, and the Development Affairs at Nyaung Shwe. I also collected data from non-governmental organizations (NGOs), plus the newspapers, both national and international, as well as journals. I searched other researches about Inle Lake and Tourism from the reliable websites, as well as library resources. Secondly, I made field data collection based on my research questions. Socio-cultural and economic data were collected through interviews and group discussions in selected communities adjacent to Inle Lake. I also conducted the in-depth interviews with the Park Warden and staff of the Inle Lake Wildlife Sanctuary, the Senior Officers of Forest Department in Inle Region. Data on wildlife were sourced from existing inventory records and official reports. This paper is based on data collected between August and October 2013 using questionnaire surveys, interviews, and updated information gathered from the records of Forest Department. A total of 270 individuals (5 government administrators, 123 locals, 64 local visitors, 65 tourists and 13 hotel managers) were interviewed during the field. Interview questions touched on livelihood options, ecotourism and park resource management. This study has also used different reports to assist field data and put the findings in context.

For this study, the combination of qualitative and quantitative research methods was used. Bryman and Burgess (1999) state that qualitative research is characterized by three factors: (a) the search for an understanding of the world through the behavior patterns and thoughts of people, (b) the pursuit of information from natural situations, not experimental ones, and (c) the development of new theories instead of testing existing ones. Furthermore, as Smith (1994) pointed out, qualitative methods are more subjective than the objective gathering of statistical data. It was deemed most appropriate given the exploratory nature of the research. Indeed. Qualitative approaches have a history of use in travel and tourism research with certain disciplines (Decrop, 1999). According to Berg, qualitative research refers to the meanings, concepts, definitions, characteristics, metaphors, symbols and descriptions

of things, while quantitative research refers to counts and measures. The essence of qualitative research is to seek answers to questions by examining various social settings and the individuals who inhabit these settings (Berg, 2007). Boeije states that the purpose of qualitative research is to describe and understand social phenomena in terms of the meanings people bring to them (Boeije, 2010). Basic quantitative analysis is used to aid in the presentation and interpretation of interview results. It is also important to recognize that the macroeconomic, quantitative, techniques typically used to evaluate tourism's economic impacts from an industry perspective are generally inappropriate and not very meaningful at the local community level (Walpole et al., 2000).

In an effort to limit the personal and methodological biases, triangulation – looking at a phenomenon or research question from multiple perspectives and sources of data is used wherever possible. Denzin (1970) extended the idea of triangulation beyond its conventional association with research methods and designs. He distinguished four forms of

triangulation: 1) *data triangulation*, which entails gathering data through several sampling strategies, so that slices of data at different times and social situations, as well as on a variety of people, are gathered, 2) *investigator triangulation*, which refers to the use of more than one researcher in the field to gather and interpret data, 3) *theoretical triangulation*, which refers to the use of more than one theoretical position in interpreting data, and 4) *methodological triangulation*, which refers to the use of more than one method for gathering data (Denzin, 1970). In this study, an effort is made to address the first two types. In terms of data triangulation, the use of a variety of data sources, including both primary and secondary sources of information are used. Primary sources included observations and interviews, and were complemented by a variety of secondary sources. In terms of method triangulation, the use of multiple methods to study a single problem, this study employed collection of documentary evidence, observation, semi-structured interviews, and quantitative interpretation of some interview results.

Figure 1: Community Interview by Age Category (N=123)

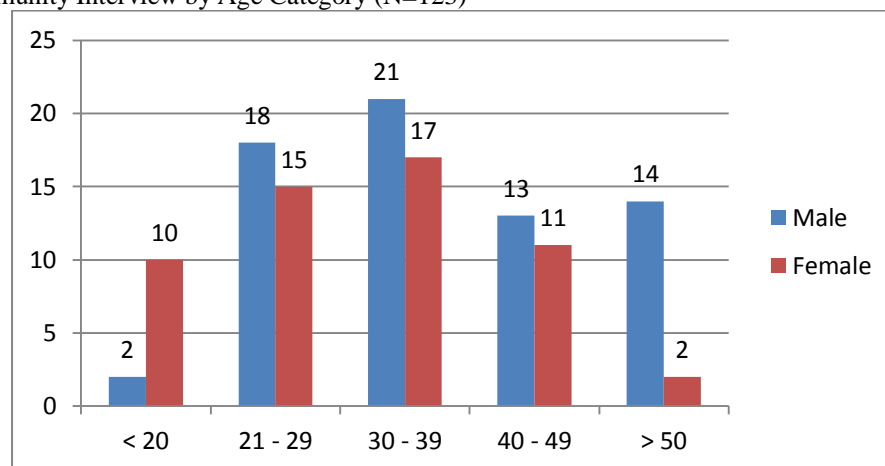


Table 1: Tourists/Visitors Survey by Age Category

Age	Tourists (N=65)		Total	Local Visitors (N=64)		Total
	Male	Female		Male	Female	
< 20	4	4	8	4	3	7
21 – 29	5	14	19	6	7	13
30 – 39	13	6	19	16	9	25
40 – 49	4	3	7	3	6	9
> 50	8	4	12	5	5	10
Total	34(52%)	31(48%)	65(100%)	34(53%)	30(47%)	64 (100%)

DATA ANALYSIS:

Using data collected in the Inle Lake Wildlife Sanctuary, an analysis of local people's expectations of ecotourism is presented. The survey covered the destinations of Inle Lake and there are significant differences in responses. Local people were asked about their experiences of ecotourism, their expectations and their aspirations, including their preferred way of earning money from ecotourism. Finally, an analysis of their perceptions of the barriers to their involvement in the industry is presented. The paper also addressed the ways in which a national park or conservationist might respond to these aspirations and seek to involve local people in tourism enabling them to secure all or part of their livelihoods from tourism related employment or entrepreneurial activity. An analysis of tourists surveyed about their activities, their feeling impressed upon enjoying the aesthetic views of the lake, and interesting things in the Inle Lake, are presented. The paper also includes with an analysis of the activities and perceptions of the warden and staff of the Inle Lake Wildlife Sanctuary, senior officer and staff from Forest Department and hotel service providers. The data analysis will explore the socio-cultural and economic differences between and within different communities due to ecotourism development, the contribution of ecotourism to conservation activities, local support for conservation and ecotourism as well as the influence of tourist activities on the Lake.

STUDY AREA:

Inle Lake, the second largest freshwater lake in Myanmar, is one of the ASEAN Heritage Parks and situated in Southern Shan State, and extends from approximately 20°15' to 20°45'N latitude and 96°49' to 96°48'E longitude. The average elevation of the lake surface is 890 meter at sea level. The elongated shape is approximately aligned on a north-south axis, and the north and south end taper to a relatively narrow breadth. High hills flank the lake on both sides of the shore. The lake was formed more than 1.5 million years ago and is a remnant form of a much more extensive series of lakes which included the former Heho upstream. So, people in the mainland of Myanmar recognize Inle Lake as lake on the mountain. These lakes formed as water dissolved limestone in the landscape, and areas around Inle Lake have many limestone features such as caves, sinkholes, springs, spurs and intermittent streams. Ecologically, Inle Lake is home to wetland species, such as migratory and residential birds and Inle Carp, which locally is called nga-phane (*Cyprinus carpio intha*). Khin Thant (1967) reported a lake approximately 23 kilometer long and 11 kilometer

wide, but less than 30 years later Thi Dar Win (1996) reported water surface dimensions of only 11 kilometer long and 5 kilometer wide. The Inle Lake basin has a warm, humid, temperate climate (Thi Dar Win, 1996). Minimum temperatures occur in December, when the typical daily range is 13–24°C. Maximum temperatures occur in April, when the typical daily range is 21–32°C. Apparently, a dramatic shrinkage has taken place over the past few decades (Myint Su & Alan D. Jassy, 2005). There are 29 creeks flowing into the lake, and among them, nine creeks are a key source of water for the lake (Kyaw Zin Aung Soe, 2012). During the dry season, the average water depth is 2.1 meter, with the deepest point being 3.7 meter, but during the rainy season this can increase by 1.5 meter. The watershed area for the lake lies to a large extent to the north and west of the lake. The lake drains through the Nam Pilu or Ba-lu-Chaung on its southern end. There is a hot spring on its northwestern shore.

According to 2010 statistics, Inle Lake and its surrounding areas have 36 village tracts and 34,272 households, and have a population of 173,099 (The New Light of Myanmar, 27th June 2011). Among them, fifteen village tracts are located on the lake. Ywama is the largest village on Inle Lake. Many ethnic groups reside on and around Inle Lake, the dominant ethnic groups settled in the Inle Lake region are Intha, Shan, Pa-O and Da-Nu, and also including Taung-Yoe, Shan, Kayah and Bamar. Among them, the Intha, whose name means 'lake dwellers', is the major group. The population at Inlay Lake is 70% Intha and 15% Shan (Sidle et al., 2007). Local inhabitants in Inle Lake are unique in the way they have adapted their lifestyles and livelihoods to their biophysical environment. Most of them earn their income by traditional methods of hydroponic farming and fishing, weaving, and silversmith, etc.

More than 170,000 people inhabit the lake vicinity. It is a vital part of broader ecosystem and providing many goods and services to its surrounding communities. The cultural traditions of numerous villages around it focus on the lake and several ethnic groups use the lake and its shore as their central landmark. It values and functions support other ecosystems and are significant for economic development. Additionally, Inle lake support different activities such as recreational, educational, scientific, aesthetic, spiritual and cultural, and these activities form an important component of and are critical functions influencing lake ecological functions. Unfortunately, Inle Lake is degrading gradually and in 2010 the depth of Inle Lake has been reached to the lowest point in the last 50 years due to

the impacts of climate change and climate variability as well as unsustainable uses of natural resources. Many factors are contributing to these changes including an unprecedented surge in temperature in the summer season of 2010, deforestation in the watershed area, eutrophication, heavy sedimentation, overuse of chemical fertilizer and insecticides, and an overall shrinkage of the surface area of the lake. Different kinds of environmental degradation have a negative effect on the livelihoods of local people who reside in the area.

In 1985, the Inle Wetland Wildlife Sanctuary (IWWS) comprising about 700 square kilometer was established by the Forest Department, and it has been designated as an ASEAN Heritage site in 2004, as well as being a Protected Area System. A 10.36 square kilometer area on the northern fringe of the Sanctuary area has been demarcated as a Bird Preservation Area, where around 25,000 birds consisting of about 270 species, both native and migratory species, congregate during the cold season months (FD).

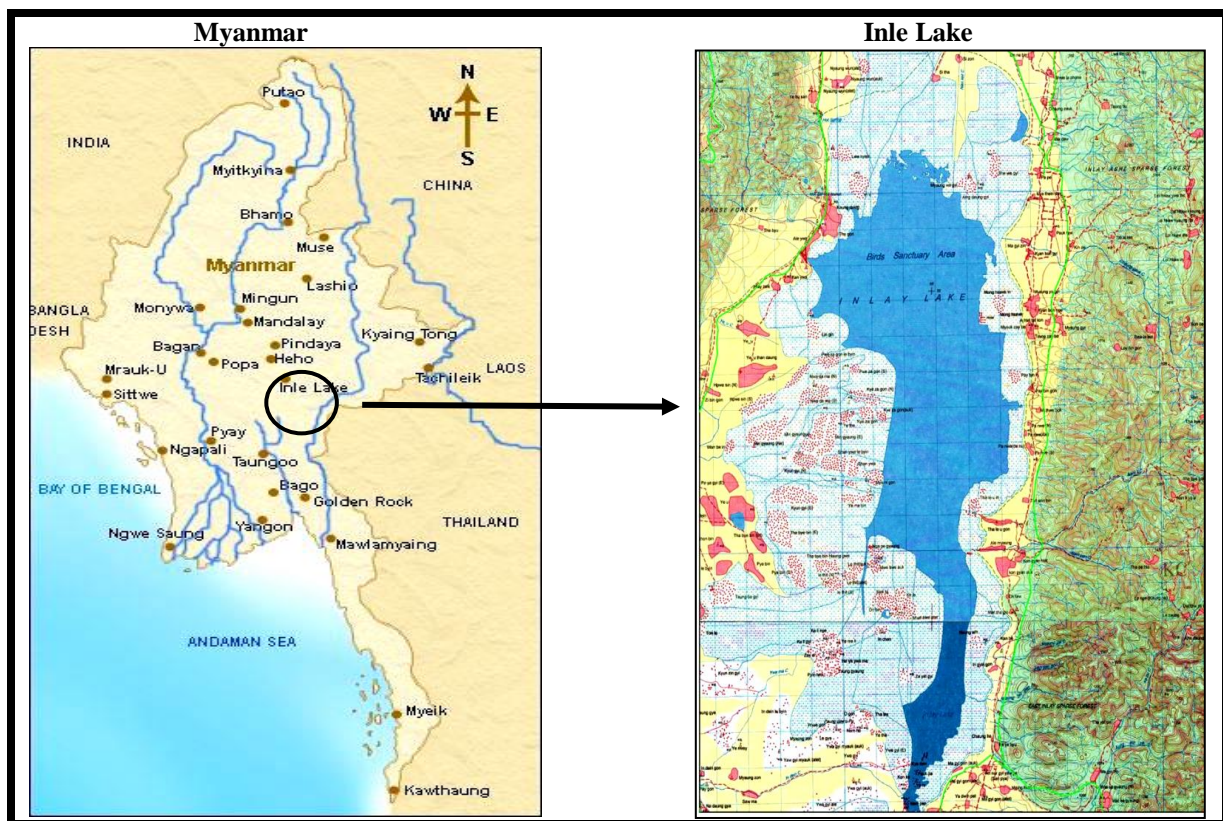


Figure 2: Map of Myanmar and Inle Lake
Source: Forest Department, Myanmar

WHY INLE LAKE?

The Inle Lake region of southeastern Shan State is not only a place of natural scenic splendor, but also an ancient cultural site with its amazing collection of ancient stupas, caves temples, prayer halls and shrines. Inle Lake is one of the three key tourism destinations in Myanmar, alongside Mandalay and Bagan, and is renowned for its beauty and serenity, attracting visitors for hundreds of years. It attracts over 300,000 visitors annually, including both international tourists and national visitors on pilgrimage (IID, 2012). Inlay Lake is a popular pilgrim site among local and tourists from neighboring Asian countries because of its many ancient pagodas and monasteries. Among them,

Phaung-Daw-Oo Pagoda has been worshipped not only by the people living in the Inle lake region but also the visitors from the whole country as well as the foreign tourists. According to a local legend, four Thayatkhan and one Myat Pong Myintzu Buddha image located in Phaung-Daw-Oo pagoda were brought to the site by the Myanmar King Alaungsithu, in Myanmar calendar year 482 (AD 1120). As a result, the famous and sacred Phaung-Daw-Oo pagoda has long been worshipped by people from far and near, and right up to the present day (Trustees Board of Phaung-Daw-Oo). Every year, the Inle Phaung-Daw-Oo Pagoda festival, holds in October and lasts for almost three weeks, is closely followed by the Thadingyut festival of lights. A

famous one-legged boat race is held during this festival. Local people turn out with their best clothes in great numbers to celebrate the Buddhist Lent and dozens of leg-rowers in their traditional dresses in a team on each boat.

Lotus Weaving is very famous and also the birth of a tradition in the Inle Lake. Historically, Lotus weaving was conceived nearly a century ago when a woman named Daw Sa U picked a lotus flower from Inle Lake to offer at a Buddhist temple. A variety of lotus called Padonma Kyar grows wild in the shallows of the lake and produces a large, fragrant pink flower. Daw Sa U saw thin fibers trailing from the end of the lotus stem and was inspired to create a thread from the fibers, and from those threads she wove the first lotus robe (Padonma Kyarthingan), which she offered to a venerable Buddhist monk from Golden Peacock Hill. In return, the monk renamed Daw Sa U as Daw Kyar U (Madam Lotus Egg) and she continued to create lotus robes throughout her life, including small robes for the Buddha statues at Paung-Daw-Oo Pagoda, the most sacred shrine on the lake. Over time, lotus weaving caught on around Inle Lake, and the creation and offering of lotus robes to eminent Buddhist monks and pagoda statues became an act of Buddhist devotion and merit-making. Every step of the process is infused with spiritual significance. The Guardian Spirit of the Lotus is given ritual offerings before the stems are plucked. The handloom is consecrated as a sacred space. The women weaving the robes follow the five precepts of Buddhism. The robes are offered to the monks during Buddhist Lent, which coincides with the rainy season when the lotuses are at their peak. And when worn, the Burmese believe the lotus robes have the power to calm the mind and aid in meditation. Handloom weaving is done in homes all around Inle Lake, but it's concentrated in two main villages: Kyaing-Khan and In-Paw-Khon.

Ywama Market is the largest village, located on the western side of the Inle Lake, one of the tourist's attractions and traditional practices of Inle Lake. Ywama is part of the 5-day rotating market cycle of Inle. In recent years, much of the commerce takes place on the water as buyers and sellers, their small boats loaded with a variety of handicrafts or produce, do business with locals and tourists. This floating market is a big draw to visitors of the lake. Nowadays, the market takes place on the grounds of a pagoda complex in Ywama village. The village is also home to a monastery and a stupa, weaving, metal smiths, wood carving and umbrella workshops.

Indein village is one of the small villages of Inle Lake, located in the west of Ywama Village, on the western bank of Inle Lake, entered through a narrow, foliage-cloaked winding canal where the jungle grows denser and denser on either side. A Buddha Image has been enshrined at a whitewashed stupa, which is on the summit of a hill. Below the stupa around the hill are cluster of hundreds of ancient stupas. It is known for a cluster of incredible atmospheric ruined pagodas, among which the most famous two are Nyaung Ohak which houses crumbling stupas with ornate stucco carvings of animal's deva, etc. Indein Village is part of the five-day inshore circuit and one of the largest and liveliest markets in the area. Numerous Pa-O and Da-nu tribal people come down from the hill and villagers engage in bon-lethal cockfights and football and Chinlon matches (Myanmar traditional sport; also known as cane ball). Shwe Indein Pagoda is a complex of 1054 weather-beaten pagodas built in 17th and 18th centuries. According to evidence provided by the Indein Stone Inscription, the first religious monument in this locality was donated in the 200 year of the Buddhist Calendar by the great missionary King Ashoka (called Thiridhammansoka). Later, it is said that King Anawrahta of Bagan and one of his descendants Narapati Sithu made donations towards renovations and the building of additional stupa. The stone figures and statues and the floral designs that adorn the stupa show the high standard of the artists and artisans of those ancient days. The workmanship of these works of arts is contemporary to that of the Bagan and Konbaung eras. The long and winding passage finally leads to the Shrine of the Indein Buddha Image of which the donor is said to be the Emperor Asoka. One Buddha image has been enshrined at a whitewashed stupa, which is on the summit of a hill. Below the stupa around the hill are cluster of hundreds of ancient stupas most are ruins overgrown with bushes. There are altogether 804 supporting pillars. It is the most solid and longest ancient passageway in the Inle region. There are also many small stupas on each side of the passage. It is truly a wondrous sight to see many ancient stupa on the banks of the Inle Lake. All the stupas in these precincts are collectively known as the Shwe Indein Pagoda. There are still traces of ancient murals on the walls of the passage.

Moreover, different standards of hotels are available to fulfill the needs of various tourist and visitors. The following table shows the list of hotels, inns and restaurants at the Inle Lake region.

Table 2: List of Accommodations at Inle Lake

Type	On the Township	On the Lake	Total
Hotels	15	14	29
Inns	13	-	13
Restaurants	46	5	51
Total	74	19	93

Source: Kyaw Zin Aung Soe, 2012

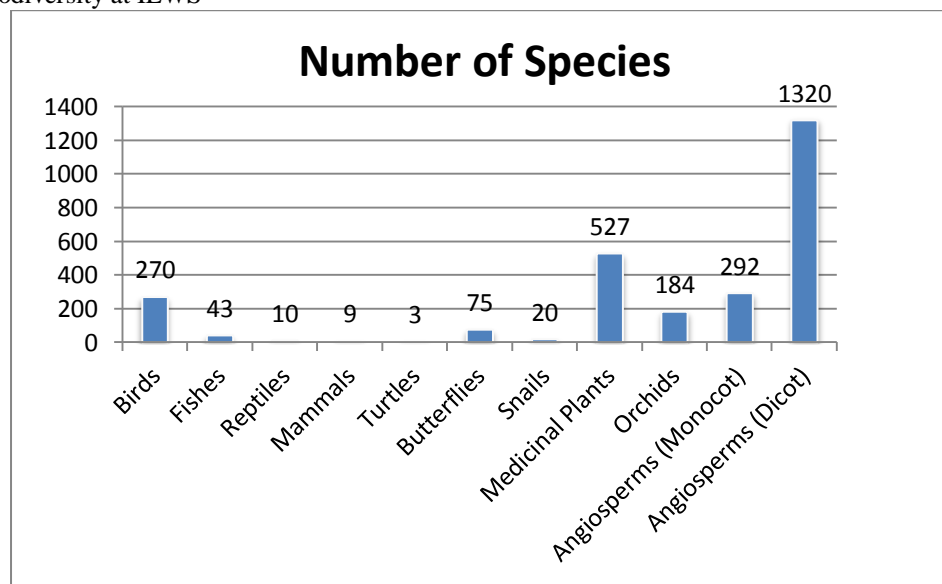
FLORA and FAUNA:

Inle Lake is also regarded as one having the highest water plant diversity in Myanmar. Inle Lake is a freshwater small lake located in the Indo-Malayan biogeography realm as it lies on the Shan Plateau in southern Shan State which borders China to the north, Laos to the east, and Thailand to the south. This significant geo-position together with a combination and interaction of geography, topography, climate, pattern of seasonal rainfall, presence of high mountains and major rivers, create a great variety of different habitats and ecosystems supporting a rich biodiversity. This unique geological history and its resulting water quality have created habitat conditions that led to a high degree of endemism with many native species found only in

Inle Lake. The lake also provides one of the large fishery resources within the Shan State, supporting livelihoods of a large human population living in the lake and along its fringes.

Several species of egret, seagull, cormorant, wild duck, and magpie are abundant in north-west Inle. Migratory birds usually come to Inle wetland areas in October as the monsoon rains diminish and depart in May as the rains intensify. Wild duck, which are particularly abundant, migrate seasonally from the Yunnan Plateau and other adjacent areas of China. In addition to fish and waterfowl, aquatic animals found in Inle include several species of frog and tortoise, as well as otters, which live near tributary streams and the lake shore.

Figure 3: Biodiversity at ILWS



Source: Forest Department, 2013

RESULTS AND DISCUSSIONS:

Relationships between the Local Community and ILWS

Indicator	Assessment
Town Population	>170,000
Dependency on Natural Resources	High
Access to park resources	Restricted: Arranged in two special management zones, fishing: allowed with fishery license
Illegal resource use	Medium
Enforcement Capacity	Determined
Benefits from resource protection	Prevent from water pollution, Lake ecological protection, Climate and drought prevention,
Conservation attitude	Positive; If people benefit from tourism, they will see reason to conserve the environment
Potential for Conservation	Good
Staff local relations	Good
Participation in planning	None: only participated in awareness activities

Local residents in developing countries are critical to the long-term, sustainable conservation of biodiversity within protected areas (Dasmann, 1984; Machlis and Tichnell, 1985; Brandon and Wells, 1992; Newmark et al., 1993; Fiallo and Jacobson, 1995; Furze et al., 1996). Local residents' perceptions of protected areas are not only a foundational component of park-people relationships (Lynam et al., 2007), they are also a key indicator of protected area success (Struhsaker et al., 2005). Understanding the park-people relationship from residents' perspectives can provide guidance for policy and management decisions (Parry and Campbell, 1992; Hill, 1998; Weladji et al., 2003) and a baseline for assessing success of management activities (Gillingham and Lee, 1999; Weladji et al., 2003). Understanding resident perceptions can also provide a foundation upon which management can begin a process of interaction with local communities by identifying potential entry points to constructively engage with local residents and helping managers understand how they are perceived by residents. The relationship between management and local residents can strongly influence residents' attitude toward PAs (Parry and Campbell, 1992; Newmark et al., 1993; Fiallo and Jacobson, 1995; Ite, 1996; Alexander, 2000; Infield and Namara, 2001; Holmes, 2003; Picard, 2003; Allendorf et al., 2007). Positive interactions between management and residents can increase local acceptance of protected areas (Mannigel, 2008), while residents' distrust of management can contribute to local opposition to protected areas (Stern, 2008). Forms of nature-based tourism, such as ecotourism, have emerged in recent years as a popular means for integrating parks and people in rural developing regions (Place, 1991). However, park establishment alters the local economic base and has often resulted in reduced

access to resources for local people (Lindberg and others, 1996).

The human resources (13 staff) are barely sufficient to manage the site. More foresters are needed to carry out conservation activities on the surrounding slopes. Many infrastructures are present, such as office, ranger posts and a bird watching centre, and equipment is provided. Staff has a different level of training in environmental issues and computer literacy is higher than elsewhere. Access to the site is easy due to the presence of motor roads around the lake and boat transportation inside (Instituto Oikos and BANCA, 2011).

The site is in a state of environmental emergency. Poor agricultural practices based on the inappropriate use of chemical fertilizers and pesticides are polluting the water. The growing tourism industry is an increasing threat to water quality due to the growing facilities that have been built inside and outside the protected area without due respect to environmental issues. Zoning recommendations are not respected by local fishermen that are increasingly abandoning traditional practices. Soil erosion in the surrounding slopes, which have been largely converted to agriculture, is the main cause of a severe sedimentation in the water body. All this is resulting in the alarming lowering of the water level and of its quality. Poaching, the collection of firewood and house poles, gathering orchids, traditional gold mining are localized threats considered to be of limited impact (Instituto Oikos and BANCA, 2011).

The main livelihood activities of the people are the cultivation of floating gardens, fishing, rice cultivation and tourism. They also work as goldsmiths, silversmiths, blacksmiths, weavers and in tourism. Floating gardens on the Inle Lake are the

major production source in the area, supplying tomatoes to much of the country. Every year, millions of kilos of tomato are distributed around the country. Fishing is the traditional livelihood activity of the people, and fish are the main source of food for local community, as well as a key income source. Traditional weaving is both for the local and commercial markets, and cloth woven from lotus is locally called “Kyar Thingan” and is unique to Inle. The development of floating gardening has led to a reduction in the open water of the lake, and the gardens can choke the lake’s fragile ecosystem. Mostly, the farmers have to use a lot of chemical fertilizers, pesticides and insecticides, which are leading to pollution of water and also to eutrophication. Also in the weaving industry, chemical dyes are used as bleaching agents. The gasoline and diesel residues from the motor boats used for transportation are also a source of water pollution. Also detergents from the washing of clothes and the direct sanitary wastes from the houses have a lot of adverse impacts on the quality of water. Dependence on natural resources is high in the study area and some degree of illegal resource harvesting has occurred as a result.

Over the last decade, environmental degradation around Inle Lake has become severe due to a variety of anthropogenic factors. Ongoing improper “in-lake” and “near-lake” agricultural practices are the main cause of environmental degradation, with their

impacts including deforestation, sedimentation, eutrophication, water pollution, water level decline and shrinkage of the surface area.

The major factors contributing to the deforestation are logging, shifting cultivation and improper ploughing systems. Due to deforestation around the catchment area of the lake, the remaining bare soil cannot maintain water and the lake dries up quickly. Moreover, when it rains, water flows directly into the lake, causing soil erosion. In this way, sedimentation levels have increased in the lake in recent years (Kyaw Zin Aung Soe, 2012). There are two emergent threats to the ecology and biodiversity around the Inle Lake area. One is deterioration of water quality, and the other, depletion of water area.

Lake officials are also hoping that controversial activities will come in the form of increased employment opportunities from the development of ecotourism. For now, such an opportunity has yet to materialize and other strategies are needed. This is especially important because many of the threats face arise from the needs of local community to use resources for their livelihoods. Although park staff has made an effort to educate community members, providing them with information about the reasons behind establishment of the park and the importance of protecting the lake and its environment, residents have not had the opportunity to participate actively in planning and decision-making processes.

Relationships between the Local Community and Tourism

Indicator	Assessment
Number of tourists/local visitors	Tourists= 79134, Local visitors=77315 (2012)
Tourist employment	Limited
Tourism income for local community	Limited opportunities for local community involvement/ spreading of benefits
Tourism related entrepreneurship	Low; Involvement of local community requires skill development
Host attitudes towards tourism’s impact	Mostly Positive and Optimistic, Some concern that only government and rich people benefit,
Social welfare benefits	New infrastructure development, water resources, skilful in language and tourism
Intercultural exchange opportunities	Increase
Potential for positive intercultural exchange	Good

Ecotourism is at an early stage of development at Inle Lake. Inle Lake is the popular religious and historical site due to its many ancient pagodas and monasteries. At present, the number of pure ecotourists is still rather low. Mostly, the tourists are included in other types of tourism such as nature-based tourism, agro-tourism (seeing the floating gardens), cultural and historical tourism. As a result, the socioeconomic development in the study area is not satisfying

enough compared to the development of tourism. Some perceive improvements in water resources, climates, roads, incomes, and the local economy. Tourist hotels are already mushrooming on once-pristine shorelines and 617 acres of farmland have recently been razed for a special zone to include 16 more hotels. The establishment of these new hotels will be followed by new job opportunities for the local people. But, most locals are employed as low-

paid since they are not skillful enough in this kind of business, while more lucrative and rewarding posts go to the employees who come from the other area of Myanmar. Despite the tourism boom will launch the youth on a bright career depending upon their social networks, their kinship tied and their capital holdings, is eroding traditional lifestyles of the local tribes. In addition, some people blame hotels and the wider tourism industry for some of the damage. Local people also point out that tourism; however it brings many jobs to the area, but damages the lake as well.

Although infrastructure developments were observed, climate and water resource effects are difficult to confirm and, in reality, tourism-related employment, entrepreneurship, and income have been very limited. Aside from employment in lake hotels, lake travel companies, or as a guide, and occasional small shop sales to tourists (water, fruit, snacks, etc.), employment and income from tourism have yet to materialize on a significant scale at the area. Should

ecotourism grow and employment opportunities expand, it will be important for local residents to have the requisite skills to be able to fill positions. Providing tourists with opportunities to spend money locally, through the development of tourism facilities and services such as interpretive media, food concessions, and souvenirs, can help in this respect and also encourage tourists to return in the future (Lindberg 1991). Also need to encourage the tourists to lengthen their stay at the lake (three nights is the current usual length of stay) would also help to increase spending levels. This might be accomplished by offering reduced room rates for extended stays and publishing multiday suggested sightseeing itineraries. Interpretation facilities, programs and guides may also help in this respect. Spending opportunities are not only important for tourists, but also for local community. These considerations suggest that ecotourism should not be depended on as the only strategy for improving conditions for community members.

Relationships between Tourism and the ILWS

Indicator	Assessment
Park entrance fee	None (Only for entrance fee by MOHT)
Tourism's financial contribution to conservation	None
Availability if educational materials/ opportunities	Limited: Pamphlets, Sing boards, Guides
Quality of educational materials/ opportunities	Good
Information about tourists	Good (Available at Tourist Information Centre)

Tourism facilities are available in 19 sites but tourism statistics were not available at the park offices because they are managed by the Myanmar Travel and Tourism. No community-based tourism activities were recorded inside or in the proximity of protected areas except for Inle lake. There does not exist reliable long term data about tourism in the lake, existing accessible statistics are not accurate (Ismael Abedin Inglemo, 2013). Figures for international tourism are very small for Myanmar compared to neighbouring countries but more investments are expected in the future, with special attention to ecotourism (Instituto Oikos and BANCA, 2011). Protected area user fees, especially in developing countries, are often nominal (Wall 1994, Lee and Snepenger 1992) or missing altogether (Lindberg, 1991). No users fees have ever been charged at the lake, only international visitors are charged a fee for entering the Inle Zone, currently 10\$. The use of collected fees should be transparent and follow an annual budget. Information should be provided so that visitors and stakeholders can see how funds are being used effectively to sustain ecosystem services. As a result, tourism has yet to raise funds for management or conservation activities. Although

levels of visitation have been relatively low, and the lake have yet to attract a foreign market, even a small fee, which that management is considering implementing at the lake could raise substantial funds. Almost all of the tourists were satisfied with the ecotourism attractions and activities they perceived. A survey of tourists, asking what they would be willing to pay to enter the lake could help for lake conservation, most tourists answered positively that they want to pay more money for this. To sum up my research, the proper and long-term trade-off management should be evolved between unavoidable impacts of the tourism development and the Inle lake environmental conservation activities as well as the socioeconomic development of the local people.

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