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PLANNING FOR NATURE-BASED TOURISM IN EAST JAVA: RECENT STATUS OF BIODIVERSITY, CONSERVATION, AND ITS IMPLICATION FOR SUSTAINABLE TOURISM

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Tourism in Indonesia is now considered a crucial economic sector. However, tourism growth and economic receipts are considered to be low compared to the other Asian countries. One of the problems is believed to be associated with the limited number of competitive destinations to attract the potential market. Therefore enhancing tourism destinations in many places in the Indonesian archipelago is important. An opportunity was found in that this archipelago is home to a huge biodiversity and is endowed with a spectacular landscape. The recent increase in the demand for natural-based tourism provides opportunity for many regions to develop tourism industry. A major obstacle was the lack of understanding of biodiversity and conservation as key elements for such tourism. Therefore the aim of this paper is provide a contextual understanding of natural resources for sustainable tourism planning and development. A case study was done in East Java as a home of high biodiversity and as a luxurious landscape for tourism. We evaluate the recent status of biodiversity and its influence on tourism, and suggest that issues of environmental quality, site-plan design and local people involvement in destination development are the ultimate pillars in establishing competitive and sustainable tourism destination.

Nature-based tourism, destination planning, sustainable development.

INTRODUCTION

Recently, discussion on ensuring the sustainability of human beings in the biosphere is increasing because fast development around the world has changed environmental quality and caused environmental degradation. Global climate changes, natural disasters, resource depletion and environmental degradation are a few examples recently faced by human beings. The world's attention to the biosphere has led to numerous recommendations and actions to be implemented in order to achieve sustainability of the biosphere. For instance, the United Nations through UNEP, initiated the World Summit in Rio de Janeiro in 1992 to discuss and develop a global strategy of sustainable development (Heywood, 1996). Furthermore, the millennium summit, conducted in September 2000, established the Millennium Development Goals (MDGs) as common development challenges to be implemented by the entire world in the 21st century. There are eight goals in the MDG, including eradication of poverty and ensuring environmental sustainability (Harcourt, 2004). In 2002, the World Summit on Sustainable Development was held on Johannesburg, and resulted two important documents: (1) The Johannesburg Declaration on Sustainable Development, and (2) The Plan of Implementation of the World Summit on Sustainable Development which have become instruments to support sustainable development (JASID, 2003). These examples highlight that sustainable gods has led mountain forest to

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development is crucial, and therefore it is important to find a strategy to implement sustainable development, both in globally and at local scales.

For a long time, tourism has been viewed as one of the crucial sectors for development. Tourism can generate national earnings, increase local people welfare, provide jobs, combat poverty, and promote local culture (Hampton, 2005; Hall & Page, 2006). Recent documents also show that tourism is one of the vehicles that support conservation programs (Gossling, 1999; Honey, 1999; TIES, 2007). Worldwide receipts from international tourism reached US$ 476 billion in 2002, and jumped to US$ 733 billion in 2006. According to the UNWTO Tourism 2020 Vision Forecast, it is expected that international arrivals throughout the world will reach 1.6 billion by 2020. Europe, East Asia and the Pacific region, and America are the three top regions, with the biggest tourism arrivals in the world. As shown in Table 1, East Asia and the Pacific, South Asia, the Middle East, and Africa are forecast to record growth at rates of over 5% per year, compared to the world average of 4.1% (UNWTO, 2007). Tourism to natural environments is growing significantly (Laarman & Gregersen, 1996; Patterson, 2007; TIES, 2007). Therefore it is not surprising if countries with huge biodiversity are striving to develop nature-based tourism by developing and managing their abundant resources to become an integral part of tourism development. Developing countries are ultimately using their abundant natural resources and cultural richness to attract tourists (Gossling, 1999; Honey, 1999). Action plans to build competitive tourism destinations flourished throughout the world. These plans include promoting environmentally sound development, maximizing benefits, reducing operational costs, attracting more tourists, and increasing destination images (Baud-Bovy & Lawson, 1998; Gunn & Var, 2002).

Table 1.
The World Tourism Forecast by UNWTO

Regions	Base Year	Forecasts		Market share (%)		Average annual growth rate (%)
	1995	2010	2020			
	(Tourist arrivals in million)			1995	2020	1995-2020
World	565	1006	1561	100	100	4.1
Africa	20	47	77	3.6	5.0	5.5
America	110	190	282	19.3	18.1	3.8
East Asia-Pacific	81	195	397	14.4	25.5	6.5
Europe	336	527	717	59.8	45.9	3.1
Middle East	14	36	69	2.2	4.4	6.7
South Asia	4	11	19	0.7	1.2	6.2

Sources. UNWTO, 2007.

In Indonesia, tourism has been growing fast since the 1970's and its contribution to national earnings is considered significant. According to statistical data, in the periods of 1969-1997, the arrivals of international tourists to Indonesia increased from 86,100 to 5,185,243, reflecting significant growth during this period (Hakim, 2004; MoCT, 2005). The geographical position of Indonesia led to a tropical paradise tourism image, where the natural resources attract people from around the world to travel to Indonesia. As one of the biggest archipelagic nations in the world, Indonesia has 17,000 islands and of these about 6,000 have been named. The length of Indonesia's coastline reaches 544,716 km making coastal tourism development a massive resource. The number of beaches visited by local and international tourists, and its contribution to tourism earnings is increasing yearly. This archipelago complex has five big islands, namely Sumatra, Java, Kalimantan, Sulawesi and Papua, and two major archipelago clusters, The Nusa Tenggara and Maluku. Biodiversity is high in these parts and has led this country to be known as the megabiodiversity country. Eventhough such resources are the potential sources for tourism in these areas, tourism grow and developed in this archipelago is centered in particular area like Bali and Yogyakarta (Whitten *et al*., 1997; Ross &Wall, 1999; Hampton, 2005).

Having tourism concentrated in single regions makes it vulnerable to the regional instability which can affect national tourism earnings. Scholars argue that causes of recent decreases in international tourist arrivals to Indonesia are numerous and encompass: smoke hazards from illegal burning and forest fire, the Asian economic crisis which lead to a rapid fall in the value of the Indonesian currency, political unrest, ethnic clashes in several areas of Indonesia, religious unrest, rebellions and political unrest, demonstrations against the west, and frequent natural disasters. However, the Bali bombings in 2002 and 2005 are the major factors causing a tourism decrease, and have led to a negative growth of international tourist arrivals (Prideaux *et al*., 2003; Sugiyarto et al., 2003; Hampton, 2005). Problems in the near future are estimated to be population growth, urbanization, and immigration pressure due to tourism it self. Nowadays, forests in lowland areas have experienced dramatic changes due to resort development (Whitten *et al.*, 1997). Development continues and it is estimated that tourism will grow beyond the carrying capacity of the island. The above indicates that destinations are going into a declining phase in the perspective of the cycling nature of tourism destinations (Moore & Whitehall, 2005). Such a situation suggests that focusing the national tourism industry on a single destination has risk, and therefore extending and developing destinations beyond the traditional places is urgently needed.

Another justification for the extension of tourism beyond Bali is related to achieving equal development among others regions in order to combat poverty and promote biodiversity conservation more widely (Budpar, 2006). Indonesia is one of the developing countries facing complicated problems related to poverty and environmental degradation. According to official data, during the economic crisis, the proportion of the poor population increased to 23.4 percent in 1999, and nowadays poverty has come to the attention of the government and is to be eradicated through numerous programs. The impact of this poverty was widespread, and in many regions environmental degradation resulted from forest disturbance, illegal fishing and bombing, illegal logging and low appreciation of nature. Nature-based tourism promises to be a tool for such regional development, and therefore enhancing such areas with potential value for tourism is crucial.

It is also important to emphasize those regions beyond Bali and Yogyakarta endowed with a spectacular landscape and beautiful scenery, but few developed due to their having numerous purposes. This archipelago is rich in amazing landscapes which are only found in the Indonesian region. For instance, this archipelago has at least 400 volcanoes, 100 of them being active. Some volcanoes have spectacular calderas, craters and lakes which can't be found in other countries. The area beyond Bali is also endowed with many appealing examples of flora and fauna which potentially can be promoted as tourism objects. Many of them are endemic, meaning they are only found in the Indonesian region. Examples

the Komodo dragon, Javan eagle, Sumatra tiger and other charismatic fauna species (Gossling, 1999; Ross &Wall, 1999; Hakim, 2004; Cochrane, 2006). However, the number of tourists to these regions is few due to low of infrastructure development and tourism planning (BPS, 2005).

These situations clearly show that enhancing other regions as tourism destinations is needed. East Java is one such potential region due to its geographic location, natural resources, biodiversity value and the fact that conservation area has been established. Governmental policy has given a chance for tourism to grow (Pemprov. Jatim, 2005) and infrastructure has been improved to support tourism growth. However, few assessments related to tourism resources have been done integrally, particularly biodiversity assessment and conservation. The role of biodiversity in tourism planning is rarely discussed and frameworks to establish such destinations are scarce. Therefore, this paper aims to describe the recent status of biodiversity and its conservation in order to draw a scenario for sustainable development of tourism in East Java with emphasis on destination planning.

Tourism in East Java

East Java is one of the Indonesian provinces which lie on the eastern part of the Java Island and west of Bali Island. This province covers an area of about 47,922 km^2 including the Madura Island. Historically, this area plays an important role in the Republic of Indonesia. From the 1000's to 1500's, several kingdoms appeared in East Java, and the Majapahit Kingdom (founded by King Wijaya at 1293) was one of the biggest kingdoms in the 13-14th century. In 1478, Majapahit fell after a Holy war led by the Demak Kingdom. The Dutch started to occupy Java Island in the 1600's, starting from the west part and extending to the east of the island. In 1767, the Dutch fought a long war to occupied eastern Java before taking control of the whole area of what is now East Java. The road built by Hermann W. Daendels in 1809 from Anyer in West Java to Panarukan in East Java allowed East Java to be explored by Europeans. In 1850, the Dutch initiated wide development of agricultural systems and plantations, and East Java become the target for plantation development. It is quite difficult to identify the first tourism activities in East Java, however, in the beginning of the 18th century tourism in East Java seemed to be making initial growth. Many travelers, naturalists, and European families visited the East Java area due to its beautiful landscape and to control their own plantations. Many buildings were built in remote areas of East Java to accommodate hunting activities and plantation visits by westerners. Some of them are found in the Iyang plateau, Ranupani, Sukamade and Ijen crater which were build by European (van Steenis, 1937; Whitten *et al*., 1997; Hakim, 2004).

Recently, the tourism sector plays an important role in provincial earnings. In 2000, tourism receipts from international visitors were US$ 74.72 million and increased to US$ 86.25 million in 2004. The international tourism growth was recorded as 9% in 2000 and increased significantly to 13.25% in 2004. International arrivals records at Juanda airport shows that Asian tourists are the biggest group, followed by Europeans. The Ketapang port in Banyuwangi has been used as a gateway for many international tourists from Bali and Lombok Islands to extent their vacation to East Java. No arrival data is available, but it is estimated to be thousands yearly. The statistical data show that basically tourism could be classified intro three categories, namely cultural tourism, nature-based tourism, and special interest tourism. Tourists use numerous types of accommodations, ranging from a star hotel to ecolodges adjacent to the forest. This provids jobs for more than 188,200 people in hotels and restaurants. Nature-based tourism destination was recorded at 179 sites, and seems to be on the increase in the near future due to many new sites being constructed in some regency (Disparta Jatim, 2005).

Cultural tourism means tourism in cultural and heritage sites. It includes visits to temples and holy sites. Many temples have been visited, such as Singasari, Jawi, Sumberawan, and Penataran Temples (Disparta Jatim, 2005). The mythology of the Javanese believes the particular place is a kingdom of an ancient people, place of gods, and a seat of creators who reside in such places. For instance, Mt.

Bromo has been viewed as the home of the Tenggerese gods, and this has led to a fantastic traditional ceremony called Kasada carried out and attended by many tourists (TNBTS, 1995; Hakim & Nakagoshi, 2006). A similar situation is also found in Mt. Kawi, and the Alas Purwo forest. In such areas, tourism grows spontaneously rather than planned, but has led to numerous problems in implementation. Among them are frequent conflicts between conservation, pilgrimage, and tourism uses.

Tourism to natural environments is dominant, and the eastern area such as the Malang, Probolinggo, Situbondo, Bondowoso, Jember and Banyuwangi regencies contributes significantly (Table 2). It includes travels to national parks, grand forests, plantations, beaches and natural environments (Disparta Jatim, 2005). From a western perspective, East Java is one of the most dramatic tropical regions regarding scenery and enjoying nature. This province is the most volcanically active region sea and scenery of coastal environments. In particular, the southern coastal areas provide spectacular coastal tourism destinations.

Table 2.
The nature-based tourism destinations (NBTD) in East Java. Number in parenthesis is the number of NBTD. TDR is tourist density of regions (tourist/km^2).

Regencies	Visitor statistics	2003		2004	
		Dom.	Inter.	Dom	Inter.
Banyuwangi (15)	Total tourist arrivals	527,368	7,030	322,023	10,684
	Tourist to NBTD	496,338	5,574	286,037	8,987
	Percentage to NBTD	94.11	79.28	88.82	84.11
	TDR	92.40		57.53	
Malang* (20)	Total tourist arrivals	2,887,449	4,052	2,975,708	12,396
	Tourist to NBTD	2,301,292	1,872	1,742,344	8,881
	Percentage to NBTD	79.69	46.2	58.55	71.69
	TDR	908.70		939.06	
Jember (3)	Total tourist arrivals	679,789	6220	313,034	1,989
	Tourist to NBTD	536,162	3,543	125,879	896
	Percentage to N BTD	78.87	56.96	40.21	45.05
	TDR	276.83		127.17	
Situbondo (2)	Total tourist arrivals	343,725	256	130,870	707
	Tourist to NBTD	343,725	256	130,870	707
	Percentage to NBTD	100	100	100	100
	TDR	209.87		80.27	
Probolinggo (2)	Total tourist arrivals	164,5 50	1,715	138,015	7,430
	Tourist to NBTD	113,255	1,684	99,353	7,178
	Percentage to NBTD	68.82	98.19	71.98	96.61
	TDR		100.40		87.82
Bondowoso (6)	Total tourist arrivals	27,579	1,111	27,209	1,194
	Tourist to NBTD	27,579	1,111	27,209	1,194
	Percentage to NBTD	100	100	100	100
	TDR	17.07		18.17	

Note: *Malang in this study include Malang City, Batu City and Malang Regency and known as Great Malang (*Malang Raya*)

Considering the large areas of agricultural-based land and the emerging of tourism in agricultural environments, the provincial government has introduced agro-tourism. Because such tourism is often situated in rural settings, this tourism often called rural tourism. In western society, such tourism is one of the pillars with respect to tourism earnings in remote areas (Hall & Page, 2006). This tourism in Indonesia is being pioneered in some places, and is mostly affiliated with the plantation environment. These can be found in Losari, Agrowisata Batu, and Margo Utomo (Hakim, 2007). The government of East Java classified such tourism into a specific tourism category in its statistical report. Nowadays, the number of tourists to agricultural-based destinations is increasing and is stimulating the construction of new destinations in some regency. Special tourism destinations have grown from 37 sites in 2000 to 90 sites in 2004 (Disparta Jatim, 2005). However, there have been few studies and discussions about the evaluation and assessment of tourism practices in rural environments. This has led to a scarcity of data and information about tourism based in agricultural environments.

Recent status of biodiversity

Biodiversity refers to the variety of living creatures in the earth and scholars classified biodiversity into diversity of genes, species and ecosystems. Biodiversity is crucial in supporting human beings, and therefore biodiversity issues and their management have become a prominent issue among many countries (Heywood, 1996). In order to guide biodiversity implementation, the Indonesian government has made a document called the Indonesian Biodiversity Action Plan as a basis for various sectors to develop their activities at a national level. Nowadays, it has been improved and supplanted by a document called the National Biodiversity Strategy and Action Plan. Indonesia possesses the third largest tropical forest in the world, which has become the habitat of numerous living creatures. A forest area which contained high biodiversity was managed by numerous parties, and generally it could be said that the Ministry of Forestry (MOF), provincial government, and private sector plays an important role in biodiversity conservation.

The Directorate General of Forest Protection and Nature Conservation (*Direktorat Jenderal Perlindungan Hutan dan Konservasi Alam*, PHKA) of MOF implement biodiversity conservation through Balai *Taman Nasional* (National Park, IUCN Category II) and *Balai Konservasi Sumber Daya Alam* or BKSDA (Agency for Natural Resources Conservation) establishment at the provincial level. There are four national parks established in East Java, namely Bromo Tengger Semeru NP, Meru Betiri NP, Baluran NP and alas Purwo NP. The other body, the BKSDA, holds responsibility to manage and control other protected areas such as Cagar *Alam* (Strict nature reserve, IUCN Category Ia), *Suaka margasatwa* (Wildlife Reserve/ Sanctuary, IUCN Category IV) and the Nature Recreation Park (*Taman Wisata alam*).

About 1.36 million hectares of forest (equal to 22% of the East Java province area) is managed and controlled by PERHUTANI, the state enterprise for forest production. Forest management under PERHUTANI is orientated to forest production with high commercial value (i.e. teak, pines, and mahogany). Tourism has been promoted and implemented since 1978, but it is not the core business of PERHUTANI. In the past, little attention was paid to biodiversity conservation and ironically some policy often threatened biodiversity. It is also reported that social conflict, vandalism, illegal harvesting, poaching, illegal logging, and many illegal activities leading to forest disturbance often occur in the PERHUTANI area. Numerous programs have been proposed to reduce forest disturbance, but they look questionable on implementation (Wulan *et al*., 2004). Besides its biodiversity content, many areas under control of PERHUTANI are known to have extraordinary landscape beauty.

The provincial government commitment to conserve biodiversity was evidenced by declaration of *Taman Hutan Raya* (grand forest), which was established on the slopes of Mt. Arjuno. So far, biodiversity databases are few.

Private land in rural and remote areas is often contains high biodiversity. For instance, home gardens have high biodiversity and contain a complex structure of vegetation. Numerous forest and fruit trees compose stands that develop huge canopies that build the top storey of a home garden structure. Javanese home gardens include *Durio*, *Ceiba*, *Mangifera*, *Tamarindus*, *Eugenia*, and many fruit plant species (van Steenis, 1992). Bamboos such as *Gigantochloa*, and *Bambusa* often grow under the top storey and the role of bamboo populations has been reported as crucial in land conservation (Christanty *et al.*, 1997). Numerous ornamental plants, vegetables and fruits are grown as an under storey layer. The home garden in highland ecosystems also shows different structure to that of lowland ecosystems, where ornamental plants are dominant. This gives a special characteristic to highland gardens (Hakim & Nakagoshi, 2007). The diversity and complexity of home garden structure allows numerous mammals, birds, insects, and reptiles to be conserved in home garden. Those facts show that private land is basically a hotspot for biodiversity, and therefore biodiversity conservation in private lands is important.

The climate of East Java is drier than West Java, and therefore deciduous forest is dominant in lowland areas. The south coast consists of semi-evergreen rain forest and moist deciduous forest while the north encompasses dry deciduous forest. It is quite difficult to state an exact figure for East Java biodiversity. However, Schippers-Lammerstee works in 1965 concluded that this area contains at least 315 ferns species, 415 monocots and 1,454 dicots. There are about 42 endemic monocotyledonous species found on Java Island, and East Java has 11 endemic species. Among them, *Plectocomia longistigma*, *Bambusa cornuta* and *Gigantochloa manggong* are only found in East Java. There are also endemic orchid species found in East Java (Whitten *et al.,* 1997; Hakim *et al*., 2006). However, an intensive survey of plants species in the remote areas is needed due to there being many species still growing in these places that are not yet studied (Hakim *et al*., 2006). Moreover, the information needs to be upgraded due to the introduction of numerous ornamental plants species.

Compared to West Java, the endemism of animal species is low, but East Java has some endemic species which are found only in the East Java province, such as *Axis kuhli*. East Java is also an important home for notable species such as *Bos javanicus*, *Cervus timorensis*, *Spizaetus bartelsi*, *Padda oryzivora*, *Pavo muticus*, and others (Hakim *et al*., 2003).

The coastal ecosystem is the richest area and contains numerous animal and plant species. Healthy coral reefs support numerous marine living creatures and therefore benefits coastal dwellers in generating marine goods and services. Five sea turtle species, *Chelonia mydas*, *Caretta caretta*, *Dermochelys coriacea*, *Eretmochelys imbricata*, and *Lepidochelys olivacea* have landed at coastal spots in East Java, making East Java a significant province in conserving sea turtles. Small islands are also the home of biodiversity, such as the Bawean, Kangean, Nusa Barung, and Sempu Islands. In Kangean Island, numerous caves harbor 15 bat species. Huge mangrove forests found on the southern coast of East Java harbor many plant species. About 170 bird species have been recorded in these mangrove ecosystems. Luxurious mangrove forests are also found in the southeast of the province, particularly in Blambangan peninsula (Whitten *et al.*, 1997).

Compared to the lowland forest which was heavily disturbed by development, the mountain forests are relatively not affected. Perhaps it is because of the Javanese perspective of the mountain as a home of gods has led mountain forest to be conserved. So far, many endemic plant species of East Java grow in mountain ecosystems (Whitten *et al*., 1997; Hakim *et al*., 2006; Hakim & Nakagoshi, 2007). However, as human population grows and the need for land for agricultural increases, mountain biodiversity is under threat due to habitat clearing, forest disturbance, and illegal logging and hunting.

BIODIVERSITY AND TOURISM

Tourists travel to natural destinations for numerous reasons: to enjoy natural environment, to appreciate the beauty of nature, to encounter wildlife, to experience rural and remote areas, to learn about flora and fauna, to learn about conservation, and get away from life's pressure. Cochrane (2006) investigated the behavior and perceptions of tourists to Bromo Tengger Semeru National Park, and found that western visitors showed an orientation toward an active form of enjoyment and have a high awareness of conservation.

Wildlife features prominently and has become the ultimate attraction for tourism at Baluran, Meru Betiri and Alas Purwo National Parks. For instance, the reason tourist visit Meru Betiri National Park is to enjoy the sea turtle landing and its conservation practices in Sukamade. In the Alas Purwo National Park, seeing wildlife in Sadengan is one of the famous tourist programs offered by the park authorities besides observing sea turtle landing in Nagelan. In Sadengan, tourists can observe the herds of charismatic megafauna such as Banteng *Bos javanicus* easily (Hakim, 2004). The potential of bird watching in the southern part of the park has been evaluated and shows that abundant of bird life is a potential asset (Hakim et al., 2003). A similar case can also be found in the Baluran National Park (Whitten *et al*., 1997). Nevertheless, a contrasting situation was found among flora. Eventhough East Java is endowed with numerous endemic and rare plant species, tourist motivation to observe such species is low.

Besides species diversity, East Java has diverse landscape. This area is one of the most volcanic regions in the world, and is the best site for mountaineering, climbing and seeing sun-rise/sun set. Among them, Mt. Bromo and Mt. Semeru are famous volcanoes receiving huge numbers of international and domestic tourists (TNBTS, 2001). Other volcanoes such as Mt. Ijen, Mt. Kelut, and Mt. Kawi also reported receiving tourists and nowadays the number of international tourists is increasing. There are also some mountains not yet explored by tourism, i.e. Mt. Arjuno, Mt. Raung, and Mt. Welirang. It is important to note that waterfalls, lakes and hot springs also attract tourists to East Java.

However, as shown in numerous reports, poor biodiversity management programs in tourism planning are found in many places. The government, planner and developers seem to be poor in understanding of the nature of biodiversity and its tourism uses. Such situations have led to a negative impact on biodiversity and the tourism industry. For instance, little wildlife at the Sadengan area led to dissatisfaction of tourists, as shown by a negative gap value assessment (Hakim *et al*., 2005). The impact of illegal logging also contributes to flooding and landslides at the nature-based tourism destination in Trawas in 2001. Several people died, and this area was closed by PERHUTANI for several weeks. Following such an example, therefore, it has become crucial to enhance biodiversity and environmental issues in order to create and save destinations, enhancing tourist satisfaction and increasing local benefits generated from tourism. Poor management of tourism in fragile environments also contributes significantly to environmental degradation. For instance, tourism on the south coast of Malang Regency has led to coral ecosystem degradation. The vandalism in tourism destination areas also shows that the bad attitudes of tourists are a threat to tourism destination success. In many nature-based tourism destinations, the number of tourist arrivals has decreased (Whitten *et al.*, 1997; Disparta Jatim, 2005).

In past decades, the decline of tourist arrivals to particular destinations as a result of resource decrease has been discussed by numerous authors. In this regard, the S-curve (Fig. 1) is often used to explain the phase in the destination life cycle (Moore & Whitehall, 2005; Hall & Page, 2006). This destination life cycle argues that the initial stage is often marked by expert/enthusiast/ adventurer who visits such an ecosystem with limited tourism facilities, and the environment is relatively unspoiled (E>O), stage

A. The frequent use of such a destination makes tourism grow, where it is assumed that the number of expert/enthusiast/ adventurer is equal to ordinary tourist (E=O), as shown in stage B. Mostly, it is followed by physical development and improving tourism facilities. This is the development phase of the life cycle. Such situations lead the number of expert/enthusiast/ adventurer to decrease, but number of ordinary tourist to increase (E<O), as shown in stage C. Increasing service facilities and appropriate management to maintain environmental quality may increase tourist (stage D), but this is scarce in developing countries such East Java. Mostly, tourist growth led to uncontrolled tourist behavior, increasing vandalism, and a decrease in environmental quality. These factors led to tourism decreases (stage E), as confirmed by reports (Disparta Jatim, 2005; Hakim *et al.*, 2005).

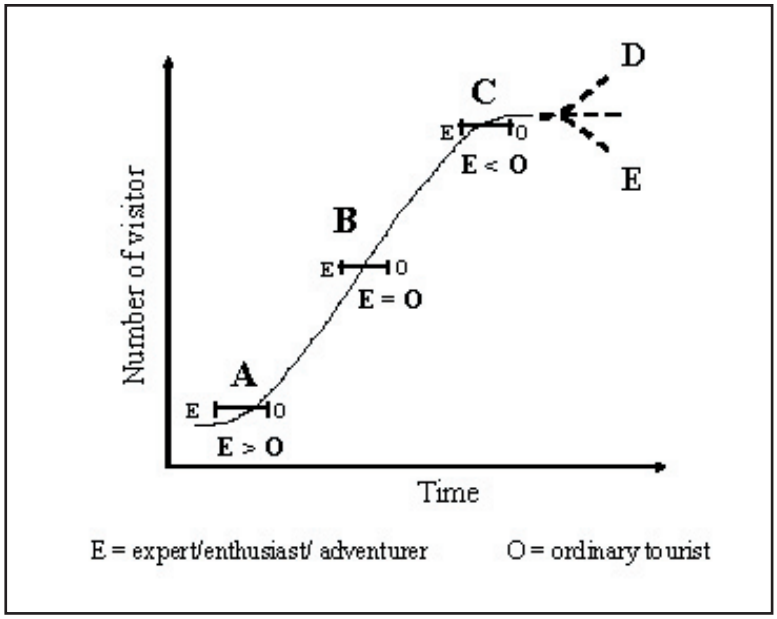

Figure 1.
The life cycle of nature-based tourism destination.

PLANNING FOR TOURISM DEVELOPMENT IN EAST JAVA

As mentioned above, tourism in East Java is characterized by travels to natural environment. Therefore, in order to meet tourism competitiveness and sustainability, proper nature-based destination planning is crucial. Many scholars argue that such destinations have life cycle, and the success to grow and attract tourist lies on appropriate planning. For a long time, this has been one of the central issues of tourism industry because nature-based tourism is related to biodiversity, natural attractions, environmental quality and socio-cultural aspect of the local people (Baud-Bovy & Lawson, 1998). Reports and documents show that appropriate planning is a vehicle to increase benefits and solve problems that may result from tourism development. Recent progress in destination and attraction research and evaluation provide numerous frameworks for destination planning and management. However, eventhough numerous frameworks have been proposed, only frameworks developed based on local cases and factual information are appropriate. This is because nature-based destination typically is influenced by indigenous environmental and socio-cultural factors (Reynolds & Braithwaite, 2001; Gunn & Var,

2002). Therefore, based on our previous works (i.e. Hakim *et. al*., 2003; Hakim *et al.*, 2005; Hakim & Nakagoshi, 2006; Hakim & Nakagoshi, 2007) and numerous reports concerning tourism in East Java (i.e. TNBTS, 1995; TNAP, 1999; TNAP, 2000; TNBTS, 2001; Pemprov. Jatim, 2005 Budpar, 2006; Cochrane, 2006), we drawn the planning to achieve sustainable destinations bellow.

It is important to start planning activities by organizing numerous stakeholders to gain public support. It is the fundamental action which often neglected by government and planner, including East Java case. Given the fact that asset and capital for tourism in natural environments belong to numerous parties and are attached to numerous stakeholders, this initial step is crucial in order to mitigate conflict between developers, planners, conservationists, and local people which often compete in natural resources use (Beatley, 1994). In many countries, it is become crucial, but absent in East Java. As a result, it is quite difficult to increase tourism arrivals and maintaining resources to meet future tourism trend, the sustainable nature-based tourism. More over, less participation of stakeholder and community into planning has been resulting wild and uncontrolled tourism growth which potentially depleting resources and environments.

In this respect, special body which is consist of numerous parties and stakeholder apparently become crucial to establish with the objectives is conducting auditing for tourism development, organizing parties to define a development vision, and setting up scenarios for sustainable tourism in regional perspectives (Baud-Bovy & Lawson, 1998; Gunn & Var, 2002). In developing countries, one of the excellent examples of such case is Bali Tourism Board. The initial audits should highlight the strengths and opportunities as well as threats and weaknesses of tourism in East Java. For instance, according to the statistical and survey analysis, nature-based tourism contributes significantly and has become a characteristic of regional tourism. However, issues of biodiversity and tourism are few studied and discussed. So far, few assessments have been done, and we recommend integral research should be implemented to provide complete information.

Our previous studies concluded that nature-based tourism destination is facing three fundamentals problems that significantly influence destination sustainability and competitiveness, namely environmental problems, lack of environmentally sustainable destination site plan, and less local people support. Therefore, the roadmap should include three pillars to make a competitive and sustainable tourism destination. These include the setting of environmental standards, improving destination site plan, and increasing local people involvement as the major pillars that should be highlighted.

Pillar 1: Environmental Standards

Strategic objectives: evaluate and monitor destination quality. There are many assessment and indicator tools available, but using biological indicators is emphasized. Biological monitoring may be applied due to numerous benefits for environmental quality monitoring programs. It offers advantages and it continuously plays an important role in environmental conservation (Spellerberg, 1991; Treweek, 1999).

Pillar 2: Integrated Destination Master Planning

Strategic objective: an inventory of potential resources, mapping temporal and spatial distribution of biodiversity, and the drawing up of a master-plan following sound ecologically principles. To establish a corridor which have the ability to reduce tourist risk to fragile environments and biodiversity, and to provide trails that enhance the tourist experience with nature and facilitate environmental education. The GPS and GIS allow techniques to map biodiversity, resources and tourism attributes and to developed appropriate design (Hakim *et al.*, 2003; Hall & Page, 2006).

Pillar 3: Community Participation

Strategic objectives: making an inventory of socio-economical databases of local people, providing access and opportunities for community involvement, and facilitating community involvement. To share lessons learned and use them to realize pro-environment and pro-society tourism destinations. Numerous techniques are available, including PRA that ensure local people participation in planning and development (The Mountain Institute, 2000; Hakim & Nakagoshi, 2006).

The above should be implemented to meet several objectives, such as enhancing local people welfare, combating poverty, supporting conservation programs, increasing economic benefits, and increasing cultural appreciation. It seems that many researchers agree that the role of the planning is achieving and increasing society welfare in sustainable environments. Thus, the desire to meet such objectives in tourism planning fundamentally means promoting and applying the sustainable development (Honey, 1999; The Mountain Institute, 2000; Gunn & Var, 2002; Hall & Page, 2006).

CONCLUSION

In conclusion, it is clear that nature-based tourism plays an important role in the East Java tourism industry. This study demonstrates that East Java is one of the hot spot of tropical biodiversity where some of them are rare and endemic. The use of biodiversity and numerous landscapes are prominent in the tourism business in this province. However, lack of research and knowledge is weakness for the sustainable tourism planning. Therefore, further research should be done to focus on inventorying and mapping biodiversity with the objectives to complete regional biodiversity database to meet sustainable tourism planning.

It should be noted that recent tourism market deals with the pristine and unspoiled forest as well as best quality of environment. Therefore making appropriate planning to enhance tourism sustainability and competitiveness is crucial. In other words, planning should be developed in sustainable manner. This study shows that East Java is lack of society and stakeholder support in term of integrated planning, and therefore the initial stage for planning is recommended to organize activities to gain public support. Moreover, it is has benefits to mitigate potential conflict and ensure overall sustainable objectives of planning and implementation.

It is important to note that East Java is facing serious problems relating to environmental standards, destination design and society involvement. Therefore, the ideal plan should be build on the three pillars, namely environmental standards, environmentally sound design and local people involvement. The environmental standard can be used to increase tourism satisfaction and mitigate tourism impact to environments. The proper design will conserve biodiversity, while tourism grows in sustainable practices. The point relating to the community is perhaps the most crucial issues since it provides the great contribution to achieve sustainable tourism objectives. By elaborating these pillars it will contribute sustainable tourism development.

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