INTRODUCTION

Biodiversity Management and Tourism Development

The year 2010 was declared by UNO as the International Year of Biodiversity (IYB) and the deadline for halting the loss of biodiversity at the global, regional and national levels. The 2010 biodiversity target was supported by the World Summit on Sustainable Development, held in Johannesburg, South Africa, in 2002 and was incorporated into the Millennium Development goals. These Millennium Goals were set in April 2002 at the sixth meeting of the Conference of the Parties to the convention on Biological Diversity.

We can wonder why in spite of the Convention on Biodiversity, different political declarations and many actions, the societies, all over the world, are not able to stop biodiversity loss, or even slow it down.

Asia, especially, its tropical part, belongs to the hot spots of biodiversity and endemism. It is underlined by the fact that 5 countries, between the 17 members of the group known as Mega diverse Countries, are from this region like China, India, Indonesia, Malaysia and the Philippines. Asia is also the home to 60% of the world population and the current rapid economical growth especially in China and India contributes by a quarter of the global domestic product.Rapid economic development and human population growth has led to massive changes in life style and escalates pressure on natural resources.

In 2008 Asia recorded the world's highest number of threatened species. Over the period 2002-2009, nearly 2500 species in Asia and Pacific were listed in the Red Data Book of IUCN (International Union for Conservation of Nature and Natural Resources).

Tourist industry is increasing rapidly in the world especially in developing countries as the important source for devise and working place. The continuous growth of tourism already caused the biodiversity degradation and negatively influenced local cultures. Several ecosystem types such as coral reefs, small islands, coastal areas, pristine forests and freshwater ecosystems became the main targets of tourism development, but these ecosystems are at the same time very valuable habitats for many threatened species and sensitive to human disturbances. It is necessary to stop disastrous development of the tourism industry oriented only on growing economic profits and bringing as a consequence, biodiversity degradation and destruction of local culture and values.

The International German Alumni Summer School was organised by the Centre for Nature Conservation (CNC) Georg-August University Göttingen, with the support of the University of Mataram, South-East Asian Germany Alumni Network (SEAG) Sub-Network Biodiversity Conservation and Sustainable Use (BIODICS) and funded by the German Academic Exchange Service (DAAD) together with Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung (BMZ).

This Summer School program is targeting the scientists and practicing German Alumni interested in biodiversity conservation and sustainable development from different countries. The venue of this Summer School "Biodiversity Management and Tourism Development" was intentionally chosen in Lombok Island, because it is confronted with tourism boom and its consequences.

During the Summer School the strategy for development of ecologically sustainable tourism has been discussed and the ways to stop devastation of the last valuable habitat were analysed. It will be important to work out the strategies to support the local community in their efforts to sustain their way of life and enhancing their participation in the economical profit by development of nature friendly tourism.

The main subjects of the Summer School include:

1. Tourism development as the challenge for the future; the growth of international tourist industry
2. Development of tourist sector in South-East Asia, globalization-tourism as new imperialism.
3. The impact of tourism on biodiversity.
4. Sustainable tourism and biodiversity management
5. Tourism development and tropical rainforest.
6. Marine biodiversity and tourism development.
7. Integrating sustainable tourism and local communities
8. Ecotourism–Linking tourism and biodiversity conservation
9. Key decision-making regarding tourism and biodiversity conservation; implementation strategies to travel agencies, tourist industry, education and policy-makers.

The Excursion to Gili Matra Marine Natural Recreation and Field trip to Mount Rinjani National Park were undertaken as the key experiences for the participants to increase the awareness and advocacy for biodiversity protection.

The chance for the biological diversity worldwide to be sustained for next generations depends on all of us. Politicians, related stakeholders and scientists should take actions to manage biodiversity in sustainable manner and develop sustainable tourism. It is expected that they may be aware of the responsibility for protecting natural and cultural world heritage.

Editorial team

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FOREWORD

Excellencies, Distinguished guests, Ladies and Gentlemen,

We are very pleased to welcome you all to the magnificent island of Lombok. According to the Metro Television Network Survey 2010, Lombok is the second most desirable destination in Indonesia for domestic tourists due to its beautiful scenery, diverse culture, and friendly people. Now, we are trying to have as many visitors as possible and targeting to reach a goal of 1 million visitors by the end of this year. Tourism sector plays a significant role in regional development of West Nusa Tenggara, and its contribution to the gross regional domestic product places tourism sector in the third most contributors after mining and agriculture sector.

In this occasion, we would like to express my deep gratitude to The Centre for Nature Conservation of University of Gottingen which selected the University of Mataram to host this summer school. Certainly, this summer school will tighten the relationship among alumni as well as between University of Mataram and University of Gottingen. Among nine German alumni lecturing in the University of Mataram, four of them have graduated from University of Gottingen. We hope that in the future, the number of our staff pursuing their study in Germany will increase significantly.

University of Mataram is far younger in comparison to the University of Gottingen, since the University of Mataram was established in 1962. University of Mataram has 1.007 lecturers teaching in eight (8) faculties with 42 study programs ranging from non-degree (diploma) to master degree. Now, there are more than 16.000 students enrolling in this semester. We have also 20 research centers that contribute not only to the development of science but also to the regional development.

We are attempting to improve the quality of teaching and research as well by increasing collaboration with international universities and institutions. We also administer academic events such as international seminars and symposiums as well as joint research with international institutions. Now we have a joint research with Kaiser Institute in Bonn Germany in the field of biotechnology. Besides, we are developing a Geomagnetic Observation Station in South Lombok collaborating with Helmholtz-Zentrum Postdam and Deutsches Geoforschungszentrum (GFZ) Germany. Such collaboration will not only benefit the parties involved but also can strengthen the relationship between the two countries. We

would be very happy if we can have more intense collaboration with other German Institutions in particular DAAD and the University of Gottingen.

Ladies and Gentlemen,

The theme of this Summer School, 'Biodiversity Management and Tourism Development', is a very suitable theme for the problem we are currently dealing with. The degradation of coral reefs in most part of Indonesian coastal area, for example, has remarkably increased within the last few decades due to human interferences. Activities such as blast fishing, muro-ami, poisoning, coral mining, sewage discharge, land and mangrove destruction, tourism, and the collecting of fauna such as fish, shells and coral have potential contribution to the degradation process of coral reefs. Currently, there are only 29% of the reefs with more than 50% live coral cover. We are very concerned with the situation since the ecosystem of coral reef plays a very important role in regional tourism development. Some local community groups have initiated programs and activities to protect these indispensable resources. Due to the complexity of the problem we are dealing with, we have to work very hard to succeed. The achievement of the two activities initiated by the local community – community-based management in Gili Trawangan and Rinjani Mountain – have been awarded as one of the best community-based natural resources management in Indonesia by the Ministry of Tourism in 2010. Therefore, we could perceive those activities as smart practices and learn something from them. However, we believe the participants of this summer school have high levels of expertise on the issues of biodiversity conservation and tourism management as well as experiences in dealing with problems pertaining to these issues in all around the world. We expect that your contribution to the issues will be significantly valuable to the effort towards conserving biodiversity and managing tourism so that everyone will get benefit from those resources.

Lastly, Lombok offers many interesting places to visit. While you are staying here, please enjoy our culture attraction, traditional souvenirs, traditional foods, and pristine reefs. We would be very happy if you could share your wonderful experience during your stay here with your colleagues, friends and relatives so that they are eager to visit Lombok. I wish you all a successful summer school and unforgettable memories during your stay in Lombok.

Prof. Ir. Sunarpi, PhD (Rector of University of Mataram)

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DEVELOPMENT OF SUSTAINABLE TOURISM

Ecolodges: Possibilities for Conservation and Quality of Life

KELLY BRICKER

World tourism has grown significantly in the past 50 years; it is now recognized as the world's largest industry with sizeable economic benefits, upwards of 6.3 trillion dollars (World Travel and Tourism Council: WTTC, 2011). In addition, world tourism is the world's largest employer, generating 98 million jobs, or nearly 1 out of every 12 jobs globally (WTTC, 2011). Originally promoted as a "smokeless" industry, the impact of over 900 million travelers (WTTC, 2011) roaming the globe at the start of the new millennium has forced governments, non-government organizations (NGOs), communities, and the tourism industry to recognize the importance of sustaining the environments upon which tourism, especially nature-based tourism, depends (Honey, 2008; The International Ecotourism Society: TIES, 2011). To that end, ecolodges have been identified as one way to assist in sustainable tourism development. Mehta et al. (2002) define an ecolodge as an accommodation facility that must satisfy criteria which embody the main principles of ecotourism; that of conservation of neighboring lands, benefits to local communities, and interpretation for both local populations and guests. Included in these ideas are 'best practices' that assist in the conservation of surrounding local flora and fauna; works together with the local community; offers interpretive programs to educate employees and tourists about the surrounding natural and cultural environment; uses alternative, sustainable means of water acquisition and reduces water consumption; provides for careful handling and disposal of solid waste and sewage; meets its energy needs through passive design and renewable energy sources; uses traditional building technology and materials where ever possible and combines these with modern counterparts for greater sustainability; has minimal impact on the natural surroundings during construction; fits into its specific physical and cultural contexts through careful attention to form, landscaping and color, as well as the use of the vernacular architecture; and, contributes to sustainable local community development through education programs and research" (Mehta, 2002, p. 5, in Mehta, Baez, and O'Loughin, eds., 2002). But what does "sustainable tourism" really mean? How can it be measured and credibly demonstrated, in order to build consumer confidence, promote efficiency, and fight false claims? The GSTC are an effort to come to a common understanding of sustainable tourism, and will be the minimum that any tourism business

should aspire to reach. They are organized around four main themes: effective sustainability planning; maximizing social and economic benefits for the local community; enhancing cultural heritage; and reducing negative impacts to the environment. The criteria are part of the response of the tourism community to the global challenges of the United Nations' Millennium Development Goals. Poverty alleviation and environmental sustainability – including climate change – are the main cross-cutting issues that are addressed through the criteria. The criteria can effectively form the basis for evaluation of ecolodges and the impact on conservation and quality of life of communities.

To date the criteria have not been utilized to evaluate the level of sustainability within an ecolodge or tested empirically. Research on negative impacts of specifically ecolodges has been limited. However, some studies have shown that environmental degradation has resulted from mismanagement of lodges of waste disposal, energy, and resources at site can lead to pollution of fragile habitat (Curzon, 1993); enormous amounts of energy, water and other scarce resources, and cause pollution (noise, air, and sewage) consumed by guests; and erosion and depletion of some species of plants through the building of trails (Bookbinder et. al, 1998; Jeffreys, 1998; Mywalyosi and Sosovele, 2001; Wallace and Pierce, 1996). It appears for every positive impact of ecolodges, the opposite, or negative occurs as well—thus emphasizing the need for a commitment to best practices. Where ecolodges have enhanced local participation and employment opportunities, there are examples where other lodges have not (Bennett, 1999); examples of poor employment and management practices exist where benefits go to a select few (Spenceley, 2001; Bookbinder et. al, 1998); there may be a lack of understanding by lodge management as to local customs and culture which leads to misunderstandings and conflicts within the community (Pearl, 1993, Colvin, 1996); there may be lack of economic benefits to local communities (Spenceley, 2001; Bookbinder, et. al, 1998), with menial employment opportunities and minimum wage opportunities (Karan and Mather, 1985; Wallace and Pierce, 1996). Another negative outcome occurs when poor planning, product development and marketing occur. For community-based enterprises, gaining links to external markets proves difficult or impossible (Stronza, 1999); lodges fail due to a lack of sufficient level of amenities to attract visitors, too low pricing, and unanticipated costs (Koppel, 2000); or the cost of lodge construction is either too high for individual investors or too low to interest most institutional investors, thus creating problem with securing adequate investment capital (Sanders and Halpenny, 2003).

Many lodges around the world are involved in efforts to implement a number of the practices and policies of sustainable tourism and social responsibility. These efforts will be helped by the development of more tools aimed at measuring environmental and social impacts. Increasingly, the synergy between the health sector and management of natural resources (i.e., protected areas) is being recognized (Horowitz, Lindsay, and O'Connor, 2001). Yet little research has explored this relationship, especially relative to ecolodges, which are primarily located in areas of high biodiversity and economically poor regions of the world (Bricker, Honey, and Inamdar, 2004). With respect to community health and ecolodges, in some ways, the development of an ecolodge has indicated the opportunity for improved health and education in the area, including vocational training, school construction and/or improvements (Ceasar, 2000; Christie and Simmons, 1999; Curzon, 1993; Honey, 2008; Spenceley, 2001), with increased training directly linked to increased income generation (Bookbinder et. al, 1997). Sanitation and litter problems have improved due to tourism development (Gurung, 1998). Research also has shown that tourism development has improved roads and other types of infrastructure development in areas surrounding lodge (Honey, 2008; Spenceley, 2001; Yu et. al, 1997). Yet, little research has explored how these occur and what are the mechanisms for their success.

Concerning resident 'quality of life', nature-based tourism has significant potential to influence positive and negative outcomes for communities and associated environments. Quality of life studies relative to tourism development explore ways in which tourism impacts effect life satisfaction of community members (Allen 1990). While quality of life is studied for a range of disciplines (Andereck et al., 2007), directly linking resident's perceived quality of life in areas where ecolodge development has occurred is non-existent. Based on Cutter's (1985) approach to quality of life, quality of life in a community is based on an aggregate of community members' perceptions and feelings on conditions which are most likely impacted by ecolodge development, such as the level of economic activity, social/cultural aspects of community life, and environmental conditions.

A number of the studies reviewed here provide insights into what are the ingredients for success. While there is growing consensus about the components of what constitutes sustainable ecolodge development and practices, there are few studies studied actual results relative to measuring and assessing impacts—then assessing these impacts on their local community. And, very few examples exist of how each of the benefits comes to fruition, or the role ecolodges have in community health and residents quality of life. Research must

continue to explore the impact of ecolodges on biodiversity conservation, community health, and quality of life benefits and the extent to which the mechanisms they employ are a means of preserving these benefits.

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