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## Editorial

Tropical countries like India have valuable natural assets like forests, parks and coastal resources which are repositories of biodiversity that need to be conserved for future generations. These areas also attract tourists, both domestic and foreign. Eco-tourism is a way of utilizing these assets to generate income while at the same time taking the necessary steps for their conservation and preservation. In the lead article, Dr. Haripriya discusses the immense potential of eco-tourism, but also points out the issues of concern. Two case studies of eco-tourism in Arunachal Pradesh and Zimbabwe are provided to give readers a flavour of the approach used by environmental economists. Web resources on eco-tourism are also listed. We are glad to inform readers in Tamil Nadu that a Tamil version of our ENVIS website is now operational. We welcome your contributions, suggestions and comments on **ENVISAGE**, which is now in its second year of existence.

## A Note on Ecotourism

### 1. What is ecotourism?

In the 1990s, tourism received increasing attention especially in developing countries as it has potential for generating income while creating incentives for conservation. It is argued that tourism allows for the use of areas, which are otherwise of low value, such as remote beaches, but perfectly meet the demands of the growing travel industry (WWF, 1995). In India, for instance, there has been a large increase in international tourism in the last few years. In the year 2002, there has been a 14.6% increase in international tourist arrivals along with 22.4% growth in foreign exchange and most of this increase is due to India's system of national parks and variety of biodiversity present in these parks. Nature-based tourism a sub-sector of tourism can be an important channel for redistributing resources from countries who demand higher nature based vacation to developing countries, which comprise mega-biodiversity regions and protected parks (Gossling, 1999). This is because an overwhelming majority of species are located in developing countries. But these developing countries face more serious problems like rapid population growth, debts, over-exploitation of wild resources, agricultural expansion, deforestation etc. which result in the loss of valuable biodiversity and degradation of national parks.

Industrialized countries on the other hand are characterized by high and increasing demands for nature-based vacations, with protected areas representing first-rate attractions (WWF, 1995). Tourism could therefore be a means of redistributing economic resources, mitigating the socio-economic situation both at local and national scale and contributing to biodiversity conservation.

For nature tourism to be sustainable – a number of environmental, economic and social requirements have to be fulfilled. This has led to the introduction of ‘ecotourism’, as a nature tourism eco-label. Given the important role played by nature-based tourism, the year 2002 has been declared as the International Year of Ecotourism. There have been several definitions of ecotourism. The World Conservation Union (IUCN) and ecotourism society define ecotourism as “responsible travel to natural areas that conserves the environment and sustains the well-being of the local people.” However for tourism to be called ecotourism, it should be fully compatible with the conservation goals of the country, while at the same time pose minimum threat to the continuation of local culture and society. Moreover, it should contribute by means of income and education to the contribution of ecosystems (Brown et al. 1997). Based on these definitions, the criteria for tourism to be called ecotourism employed in the literature may be summarized as follows:

1. Minimum physical and social impacts on the visited area
2. Ecological education of the tourist at the natural site
3. Notable economic participation by local tourists.

## **Ecotourism and its Impacts**

There were two conflicting views about the impacts of ecotourism. The optimistic view is that tourists are an economic force that can promote the conservation of the natural attractions that entice the tourists in the first place. Under this concept, revenues from tourists, in the form of entrance fees, domestic airfares, accommodation and food, hiring charges of the guide, sale of local goods such as handicrafts and souvenirs and tax revenues levied on the above, are distributed among the population that is most likely to exploit the natural areas. Such a transfer of revenue establishes a direct link between conservation and personal income. In addition, complex economic linkages transmit the impacts from those who sell goods and services to tourists to others in the local economy (who sells goods and services to the agents). For example, hotels, restaurants, and bars, hire local workers, pay rents to locals, and purchase local “intermediate inputs” like fruits and vegetables, fish, meat etc. Outside agents, including operators of boats also purchase locally supplied goods and hire local workers. Payments for these goods and services enter the economy, influencing the incomes of local agents who may not have any direct contact with tourists. These agents, in turn, stimulate new rounds of local expenditures that influence the incomes of still more local agents.

For example, the CAMPFIRE project in Zimbabwe (which is a community based wildlife management for safari tourism and sport hunting), generates yearly revenues of up to 4000 USD per household. In Asia, the ecotourism in Annapurna Conservation project have allowed for a basically self-sustaining financing of integrated conservation and development activities, to the benefit of the local population (Wunder, 2000). In Latin America, according to a study by Groom et al. (1991) for Madre

de Dios region in Peru, tourism benefits depend heavily on the type of destination. They found that easily accessible areas with already intervened natural environment provide less revenue compared to a remote rainforest reserve that caters to wealthier tourists. Drumm (1991) found for the Ecuadorian Amazon region that in spite of much higher tourism spending on tours in exclusive and pristine destinations, local income is found slightly higher in backpacker destinations. Lindberg and Enriquez (1994) concluded that the communities in Belize have profited significantly from tourism directed towards adjacent protected areas by selling handicrafts, providing accommodation and other services.

The pessimistic view has been that ecotourism cannot lead to sustainable development. Yu et al. (1997) finds the conditions under which the standard models of ecotourism can breakdown in Amazonian Peru. Taylor et al. (2003), finds that in Ecuador's Galapagos islands, by creating economic disparities between tourist destinations and the economies that surround them, the expansionary influences of tourism also create pressures for population growth through migration to fill jobs linked directly or indirectly to tourism. In addition to these due to flying, tourism causes significant environmental damage costs. For example, Gossling (2000) has estimated that a two-week package tour covering a typical return-flight distance of 7000 passenger kilometers is based on the use of 325 kg of fuel or air travel, including a national connecting flight, and another 100 kg of fuel for different purposes at the destination. This translates into a CO<sub>2</sub> equivalent of about 3385 kg, including the effects of NO<sub>x</sub> and H<sub>2</sub>O. Viewed in terms of contribution of tourism to climate change, this can be substantial.

### **Some issues and future of Ecotourism**

Tourist impacts on the environment, society, and economy are complex. As the nature-based tourism demand is mainly for the pristine undegraded areas, the pressure on such ecosystems can be quite high. The IUCN (1992) lists tourism as the second major threat to protected areas. If ecotourism grows rapidly beyond a certain extent several problems can emerge. These can be environmental problems, related cultural and social changes, disruption of the traditional economic activities etc. Even the local population may not be willing to tolerate visitor's beyond a particular limit. One way to deal with this problem is to find the carrying capacity of the region. Any tourism beyond the acceptable carrying capacity should be strictly prohibited. The carrying capacity can be physical, social and economic. Another major issue arising out of tourism is the distribution of benefits from tourism. As any conservation of protected areas for the purpose of tourism entails huge opportunity costs, if the benefits were not distributed fairly, this would result in huge welfare loss to the society. Most often as is the case, a greater proportion of tourism revenue gets concentrated in the hands of a few powerful players. This is because as the tourism linkages are often quite tenuous, local populations often cannot provide the services that foreign tourists demand which only large tourism operators can provide. This leaves large tourism operators with almost no competition and hence the wealth is concentrated in the hands of few large operators, while the costs of tourism (say rising prices for goods and services) have to be borne by people living in that area.

Another issue of concern is as more and more tourists arrive in the country, governments in developing countries often turn to ecotourism as the major option to generate economic benefits without

adequate planning. This can lead to unsustainable growth in the country, which can be avoided only through appropriate measures. Further, as mentioned before flying can cause significant damage to the environment and hence, these environmental costs must be internalized by suitable policy instruments. In addition to all these, one should consider the fact that the economic potential of ecotourism has remained unrealized so far because a major proportion of the nature-based tourism is characterized by non-use values. These non-use values often accrue to tourists from the global community, while the developing countries face the costs for preservation. Basically, the economic value of tourism captured by developing countries is often minor. Many nature based tourist destinations in India charge a nominal fee or no fees at all. At present, most ecotourism spots do not even generate enough financial resources to cover their maintenance costs. Unless the costs of maintenance of the parks and the opportunity cost of protection of these nature-based tourist destinations are realized in the form of entrance fees, this would result in a huge burden on host countries. Thus, effective planning, management and control are a precondition for the sustainable growth of ecotourism.

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## **Environmental Conservation and Nature Based Ecotourism** *Compilation of Case - Studies*

### **Case Study 1: Arunachal Pradesh – India**

Arunachal Pradesh is very rich in forest and biodiversity. This study tries to examine the economic estimates of the recreational value of the economic estimates of the recreational value of nature –based tourism and estimates the economic potential for the development of such tourism in Arunachal Pradesh. This study makes an attempt to show that the sustainable management of forests and wildlife resources could provide very significant and much needed revenue for the states of North East India. This is the first study of its kind carried out till date to determine the demand for nature-based tourism and the economic value of forest and biodiversity in North East India in general, and Arunachal Pradesh in

particular.

The broad objectives of the study were to study the socio-economic characteristics of tourists such as nationality, gender, age, reasons for visit, household income, educational level, length of stay, cost of travel etc. To determine as far as possible the income benefits of nature -based tourism through the existence of natural resources. To examine the nature of demand for tourism related services generated by the selected tourist spots of Arunachal Pradesh. To elicit relative values placed by stakeholders of near-by forests/parks as well as local people's perception of the impact of tourism.

The study was conducted in Arunachal Pradesh covering an area of about 83,743 Sq KM. Bio-geographically, it is situated in the Eastern Himalayan province, which is considered to be the richest bio-geographical province of the Himalayan zone. The entire territory forms a complex hill system with varying elevations ranging from 50metres at the foothills to around 7000 meters in the northern hills. This diversity of topographical and climatic conditions has favored the growth of luxuriant forests, which are home to myriad plants and animal forms adding beauty to the landscapes. So, the mountain ecosystems have provided ideal conditions for the promotion of nature-based tourism in Arunachal Pradesh. Four relatively developed tourists spots were selected for the study purpose, these are Namdapha National park in the eastern part of the state, Ziro which is located at the central part and Bomdila and Tawang in the western part of Arunachal Pradesh. The study included three categories of stakeholders namely tourists, local population, and experts. So three different surveys were conducted.

*Tourist survey:* In order to determine the economic benefits of nature-based tourism in the selected

tourists spots, a detailed questionnaire was developed. Part 1 of the questionnaire was to obtain the background information on the visitors current visit to the selected spot ; part 2 included data on travel costs involved with the trip to the selected spots, part 3 and part 4; contained the economic valuation questions and visitors' impressions. The present study on tourists was based on multi-stage sampling technique. The tourists were selected randomly and the interview was conducted in two stages. During the survey altogether 390 effective interviews were conducted out of which 269 were domestic tourists and 40 foreign tourists. Tawang-98, Bomdila-93, Namdapha-56 and Ziro-56. A travel cost model was used to determine the value of tourism and the nature of demand for it.

*Survey of local population:* The local people around the selected tourist area interviewed derive the use-value of forests through the collection of firewood, building construction materials, leafy vegetables and medicinal plants. Altogether 12 villages were selected by purposive sampling.

*Expert Survey:* The third category of the stakeholders of the present study were experts who were basically botanists, zoologists, environmental-geographers, geologists, foresters and NGOs working on environmental issues. The opinion of experts was taken to identify and assess the possible negative impacts of tourism on environmental parameters and the optimum number of tourists that can be catered to daily in the selected tourist spots of Arunachal Pradesh without affecting the ecosystem adversely. The Delphi technique was used for the identification and assessment of impacts of tourism.

The results from these surveys showed that, nature-based tourism, in Arunachal Pradesh brings significant economic benefits to the area.

**Reference:** Environmental conservation and demand for nature based tourism in Arunachal Pradesh - Amitava Mitra , EERC Working Paper Series : CPR -7, Theme : CPR & Forests

### **Case Study 2: CAMPFIRE Project – Zimbabwe**

CAMPFIRE was conceived in the harsh Sebungwe region in Zimbabwe as an innovative extension of the Parks and Wild Life Act (1975) induced successful game ranching on commercial lands to communal areas, with the comfort of the successful human-wildlife conflict resolution of the small Mahenye community experience in the background. CAMPFIRE was a program designed to allocate the rights to use communal resources to small communities, providing an incentive to use the resources better. The project aimed to internalize the costs and benefits of resource management to the individuals in defined communities, removing externalities and systems of open access.

The essence of the CAMPFIRE project was to see how the commercialized use of wildlife would benefit the resource, favoring the creation of public and private wildlife areas, promoting biological diversity and enhancing long term rural production. No single organization runs CAMPFIRE at a national level. There is a collaborative group for CAMPFIRE (CCG), which is responsible for co-coordinating the various inputs, including policy, training, institution building, scientific and sociological research, monitoring and international advocacy.

Over 90% of CAMPFIRE revenues earned by rural communities come from foreign hunters, who come to Zimbabwe to hunt elephants, buffaloes, lions or other wild animals. Hunters are considered the ultimate ecotourists as they have a much lower impact on the environment than other tourists. In addition, their presence in remote areas acts as anti-

poaching deterrent. Tourists have visited Zimbabwe's rural areas for many years, although the local communities were rarely involved (or benefited from) tourism until a few pilot projects were set up by CAMPFIRE in the early 1990's.

Most revenues from tourism in Zimbabwe's Communal Areas are generated through the leasing of sites for nature tourism, although in some cases local residents run basic tourist facilities and act as guides. Many more tourism plans are in the pipeline, including cultural tourism, bird watching and access to natural hot springs. Significant gains have been recorded in community based wildlife conservation in Zimbabwe under CAMPFIRE. These gains include the broad scale of implementation of the project, increased share of land devoted to wildlife management, establishment of monitoring of wildlife populations in communal areas, building up of institutional and administrative capacity at rural district (RD) and local community level, democratization by proposing alternative models to the centralized control political culture, development of social infrastructure, influencing sensible regional wildlife policy reform, opening markets for trade to enable Africans to accrue revenue from their wildlife resources, build stewardship for the resources, promoting wildlife resource utilization as a complementary land use strategy on marginal agricultural lands for local people, provide a social, political and economic context in which wildlife resource use can be discussed, debated and decisions implemented. Under the current legal set-up in Zimbabwe all funds generated by CAMPFIRE projects go first to the RDCs, and it is then at the RDCs' discretion to determine how much goes to the producer communities. CAMPFIRE has not been able to eliminate the human-wildlife conflicts. Also, the lack of agreed measure of damage has prevented the

compensation of aggrieved households who suffer damages from wildlife. Wildlife poses a particular problem in that ownership and control are usually unclear.

**Reference** : An overview of community - based wildlife conservation in Zimbabwe - Edwin Muchapondwa , <http://www.handels.gu.se/econ/PI%20Final.pdf>

### **Other Miscellaneous Ecotourism Conservation Projects**

#### **Chumbe Island Coral Park**

*More Details* : <http://www.chumbeisland.com>

#### **Community Based Natural Resource Management (CBNRM) Français**

*More Details* : <http://www.khwai.org/cbnrm.html>

#### **Global Ecovillage Network**

*More Details* : <http://gen.ecovillage.org/>

#### **Northwest Yunnan Ecotourism Association - Strategies**

*More Details* : <http://www.northwestyunnan.com/strategies.htm>

## **Web resources on Eco-tourism**

The Ecotourism Society's Ecotourism Explorer

<http://www.ecotourism.org/>

- For compendium on issues pertaining to Ecotourism .

Facts and Figures on Ecotourism

[http://tourism.gov.au/new/cfa/cfa\\_fs16.html](http://tourism.gov.au/new/cfa/cfa_fs16.html)

- For information on policies, research activities ,publications and projects pertaining to Ecotourism in Australia.

International Centre for Ecotourism Research (ICER)

<http://www.ins.gu.edu.au/eas/icer/>

- For compendium on research activities pertaining to Ecotourism in Australia.

World Travel and Tourism Council

<http://www.wttc.org/>

- For extensive information resource on all tourism and environmental issues.

## **What's New at the ENVIS - Website**

Tamil version of the ENVIS Website is uploaded and can be accessed at <http://www.mse.ac.in/envistamil>. The website provides the Tamil version of the relevant subsections relating to the subject. Sections such as Literature , Quiz , Conferences and jobs, have the links in Tamil, but the contents are available in English .The Website currently uses Kalaham Tamil font which the users need to install on their machines to view the website.The users are provided the facility to download the font on the webpage itself. Automatic detection and font downloading is being developed and would be made available soon

## **MSE - Activities**

### **New Director for MSE**



**Dr. Sunder Ramaswamy , Director, MSE**

Dr. Sunder Ramaswamy , took charge as the Director of MSE on January 8<sup>th</sup>, 2004. He is currently the Frederick C. Dirks Professor of Economics at Middlebury College and also served as the Chairman of the economics department from 1996 – 2000 and 2001-2003. He received his Ph.D. in Economics from Purdue University (U.S.A) in 1991, an M.A. in Economics from the Delhi School of Economics, and B.A. (Honors)

in Economics from St. Stephen's College, Delhi. His teaching interests include Development Economics, International Economics, and Microeconomic Theory. His papers have been presented at international conferences in Austria, Canada, Greece, Netherlands, Singapore, Spain, and Zimbabwe and at numerous conference/workshop settings in India and USA. He has also contributed many chapters in various books and articles either published or forthcoming in journals.

### **New Member Secretary for Centre of Excellence in Environmental Economics**

Dr. Paul P. Appasamy took charge as the Member Secretary of the Steering Committee for the Centre of Excellence in Environmental Economics with effect from April 1, 2004, he succeeds Prof. U. Sankar. Dr. Paul also supervises the ENVIS nodes activities at MSE.

### **Conferences / Seminars**

#### *Completed*

#### **India**

##### **INTERNATIONAL CONGRESS ON RENEWABLE ENERGY FOR SUSTAINABLE DEVELOPMENT**

21 - 23 January, 2004

Bangalore, India

*More Details:* <http://www.icore2004.com/>

##### **WATER INDIA 4 INTERNATIONAL CONFERENCE**

3 - 4 February, 2004

New Delhi, India

*More Details:* <http://www.indiacore.com/ic-conf/10-feb2004-cpu-water-india/index.html>

##### **FOURTH DELHI SUSTAINABLE DEVELOPMENT SUMMIT 2004: PARTNERSHIPS FOR SUSTAINABLE DEVELOPMENT - ADDRESSING THE WEHAB AGENDA**

New Delhi, India

4 - 7 February, 2004

*More Details:* <http://www.teriin.org/dsds>

#### **Abroad**

##### **INTERGOVERNMENTAL CONSULTATION ON STRENGTHENING THE SCIENTIFIC BASE OF UNEP**

14 - 15 January, 2004

Nairobi, Kenya

*More Details:* <http://science.unep.org/upcomingmeetings.asp>

##### **SUSTAINABLE DEVELOPMENT IN THE WTO - TRADE, INVESTMENT AND ENVIRONMENT AFTER CANCUN**

23 - 24 February, 2004

Chatham House, London, United Kingdom

*More Details:* <http://www.riia.org/>

#### *Forthcoming*

#### **India**

##### **RENEWABLES 2004 CONFERENCE: DISTRIBUTED GENERATION AND VILLAGE ELECTRIFICATION**

1 - 2 April, 2004

New Delhi, India

*More Details:* <http://www.teriin.org>

##### **WORKSHOP ON ONLINE KNOWLEDGE RESOURCES ON URBAN ENVIRONMENT**

22 - 23 April, 2004

New Delhi, India

*More Details:* <http://www.teriin.org/events/events.htm>

##### **SECOND ASIAN CONFERENCE ON BIOTECHNOLOGY AND DEVELOPMENT**

7 - 8 April, 2004

New Delhi, India

*More Details:* <http://www.ris.org.in/SecCon/SACBD.htm>

#### **Abroad**

##### **ECO-EFFICIENCY FOR SUSTAINABILITY: QUANTIFIED METHODS FOR DECISION MAKING**

1 - 3 April, 2004

Leiden, Netherlands

*More Details:* <http://www.eco-efficiency-conf.org/>

##### **WORKSHOP ON SYNERGIES BETWEEN GLOBAL CONVENTIONS: ECOSYSTEM APPROACH FOR IMPACT ASSESSMENTS**

5 - 12 April, 2004

Kandalama, Sri Lanka

*More Details:* <http://www.rbp-iucn.lk/events.html>

##### **CARBON MARKET INSIGHTS 2004**

20 - 21, April, 2004

Amsterdam, The Netherlands

*More Details:* <http://www.pointcarbon.com>

##### **31ST SESSION OF THE IPCC BUREAU**

28 - 30 April, 2004

Geneva, Switzerland

*More Details:* <http://www.ipcc.ch/calendar.htm>

Electronic version of the Newsletter can be accessed from <http://www.mse.ac.in/envis/newsletter>