



PROTECTED AREA AN EFFICACY FOR ECOTOURISM DEVELOPMENT: A VISITORS' VALUATION FROM SATCHARI NATIONAL PARK, BANGLADESH

by Sayma Akhter, Md. Parvez Rana and Md. Shawkat Islam Sohel

Introduction

Protected areas (PAs) now cover more than 12% of the world's land area. These protected areas are on the front line in the campaign to conserve biodiversity, as well as to promote ecotourism on the planet Earth (Chape *et al.*, 2003; Hales, 1989). Tourism use of PAs basically involves traveling to discover and learn about wild environments. The importance of nature in attracting tourists is significant, and the natural resources and cultural heritage represent a competitive advantage for many

areas. Different kinds of protected areas (e.g., national parks, wildlife sanctuaries, game reserves, eco-parks) provide opportunities to see wildlife and undisturbed nature, which is rated as a very important reason for visiting PAs (Goodwin, 1996). PAs are becoming more popular destinations for both national and international wildlife tourists. In addition, the economic benefits derived from tourism can be observed in different PAs. Protected area-based ecotourism can give rise to economic benefits for local communities as well as for the nation. (Hales, 1989; Goodwin, 1996; Wells *et al.*, 1992; Western &

Wright, 1994; Ghimire & Pimbert, 1997; Hannah, 1992; GOI, 1994; Fiallo & Jacobson, 1995; Ite, 1996; Mehta & Kellert, 1998; Rao, 1996; Lindberg & Enriquez, 1994; Walpole & Goodwin, 2000; Walpole *et al.*, 2001). Nature-based or forest-based tourism is a key category of eco-tourism, which is one of the fastest growing sectors in the world (Landell-Mills & Porrás, 2002). However, in Bangladesh, this promising sector is poorly utilized. It has been reported that less than 10,000 foreign visitors visited Bangladesh in 1992; domestic tourism, on the other hand, appears to be a strongly flourishing sector of the market (Vantomme *et al.*, 2002).

Protected areas have long played a significant role as tourist attractions in many countries (Butler & Boyd, 2000). The landscapes, flora and fauna, as well as the cultural elements, continue to attract tourists (Cebalos-Lascurain, 1993). Eco-tourism has become a management strategy for many protected areas. There are numerous opportunities for ecotourism in protected areas which also generate revenue (e.g., user fees, entrance fees and donations), create employment, reinforce the justification for protected areas, contribute to healthier economies, and promote environmental education and improved conservation efforts (Borrie *et al.*, 1998; Drumm & Moore, 2005). Presently, there are 19 notified protected areas in Bangladesh (11 national parks, 7 wildlife sanctuaries and 1 game reserve) (NSP, 2006b). Compared to other regions of the world, this figure is still very poor. The PAs of Bangladesh cover nearly 1.7% of the total landmass of the country, which is the second lowest per capita area under PAs in any country (Sharma *et al.*, 2005). As the tourism industry is quickly becoming one of the most profitable industries in developing countries, the Government of Bangladesh should give emphasis to increasing the number of protected areas for ecotourism development. PAs have become a new tool to promote environmentally and culturally friendly tourism, but there is little reliable or published information available regarding the tourism potential of the PAs of Bangladesh. Thus, the present study was conducted in Satchari National Park of Bangladesh to understand the importance of PAs in ecotourism development.

Study site

Satchari National Park is a recent addition to the protected areas of Bangladesh and was notified in 2006. The park was established in the year 2005 to protect and preserve the remaining patch of natural forests within the forest of Raghunandan Hill Reserve. The area of the park is about 242.82 ha (600 acres) which comprises the forests of Raghunandan Hills Reserve within the Satchari Range (NSP, 2006a). Administratively, Satchari National Park is located in Chunarughat Upazilla of Habigonj District and situated nearly 130 km northeast of Dhaka, and about 60 km southwest of Srimongol. The forests of the park originally supported indigenous types of vegetation cover comprised of tropical evergreen to semi-evergreen forests. Currently, the forest has turned to a secondary forest because of the substantial alteration of the original forest, except for 200 ha of natural forest. The park falls under the bio-ecological Zone-9b, with the broad zone "Sylhet Hills" (Nishat *et al.*, 2002). The soil texture in general is sandy loam to silty clay and more acidic than the adjoining ecological zones (Choudhury *et al.*, 2004). The area of the national park is undulating, with slopes and hillocks ranging from 10-50 m scattered in the forest. The forest is drained by a number of small, sandy-bedded streams, all of which dry out following the end of the rainy season in October-November. The total annual average rainfall of the area is 4,162 mm. July is the wettest month, having an average of about 1,250 mm of rain, while December is the driest month with no, or very little, rainfall. May and October are the hottest months (average maximum temperature around 32°C), while January is the coldest month, when the minimum temperature drops to about 12°C. The relative humidity is about 74% during December and over 90% during July-August (BBS/UNDP, 2005).

Methods

To collect data and information, an opinion poll was conducted in the study area because most recreation seekers like to visit these eco-tourism spots. The visitor's survey method was conducted to determine the value of outdoor recreation. Thirty respondents were interviewed, representing different socio-economic and occupational groups.

The selection of respondents was done randomly to avoid serious bias. A semi-structured questionnaire was designed for this purpose. The data collected from visitors included the visitor's category, age group, educational status, occupational status, economic condition, nature of visit, etc. The field survey was carried out during the period December 2007 to February 2008. The relevant information was sorted, compiled and analyzed.

Results and discussion

Age was identified as an important factor in choosing the site to visit, and was in turn related to gender because both male and female visitors engage in tourism. The total number of visitors surveyed in the study area was 30, of which 76% were male and the rest female. In Foy's Lake, the percentage of male and female tourists is about 75% and 25% respectively. The majority (43.33%) of the visitors belonged to the younger age groups (25-35 years). This indicates that young and middle-aged adults were eager to learn about wildlife and enjoy natural beauty. A similar study was done at the Foy's Lake Zoological Garden, which showed the maximum number of tourists to be in the age group below 30 years (60%) (Jashimuddin & Alamgir, 2005), again confirming that young and energetic people are willing to visit the forest-based natural beauty. In both studies the sex of the tourists played a great role in the recreational activity.

The study revealed that 100% of the visitors were literate. It was also observed that 36% of the visitors were H.S.C. level and 30% were graduates. In the Foy's Lake Zoological Garden study 99% of the tourists were literate. Among them, 68% were below graduate level and 31% were graduates or post- graduates (Jashimuddin & Alamgir, 2005). This implies that education plays a vital role in determining the demand for green nature-based recreational activities in the study areas. Thus, it seems the park attracts educated persons who like to take advantage of unique opportunities to learn about wildlife, which might eventually promote conservation awareness. Educating visitors about wildlife has increased awareness and contributions towards wildlife conservation in the world (Luck, 2003).

According to the interviews, about 36.67% of the visitors listed their occupations as "employee" followed by "student" (33.33%), "business" (23.33%) and 6% listed "farming". In the study areas service holders formed the major groups of visitors. There were also a good number of students. The study done in Foy's Lake with the Zoological Garden showed 48% of the tourists were students (Jashimuddin & Alamgir, 2005). This indicates that students are the major partakers of recreational activities in the study area.

Data analysis showed that the average monthly income of a service holder was Tk. 12,000, and that of a businessman was Tk 13,500. A similar study done by Chowdhury (2006) in Baldha garden (Botanical garden) of Dhaka city showed most of the respondents to be middle class in earnings. The range of income was between TK 8,000-12,000. This indicates that income is an important factor controlling the visitor's potential to visit distant places which are beyond their income and people earning less face difficulties in traveling to visit and enjoy places of natural beauty.

The results of the study also revealed that most of the visitors in the study areas were visiting in a group with friends (55%), followed by groups comprising family members (20%), couples (15%) and individual visitors (8%). Institutions represented the lowest number of visitors (2%). The study done in Foy's Lake with the Zoological Garden showed that 80% of the tourists came with their family, but here the highest percentage were groups of friends (Jashimuddin & Alamgir, 2005).

The majority (67%) of the visitors preferred to time their visits with religious holidays and the remaining 33% of the visitors visited the ecotourism recreation areas during their spare time. The majority (45%) of the visitors preferred the spring season, followed by autumn (23%), winter (20%) and summer (12%). A similar study done in Tilagor eco-park of Sylhet city showed that visitors liked to visit there mostly in the spring (47%) (Akhter, 2008).

Three types of tourists were found in the park: first time visitors, which was the largest group (72%), followed by second time visitors (18%)

and visitors who returned more than two times (10%). A study done in Jafflong of Sylhet district recorded that 63.63% of the tourists had visited for the first time (Ali, 2008). In a comparison of the studies Satchari National Park had the highest number of first time visitors.

Eighteen percent of the respondents were of the opinion that Satchari National Park needs huge improvements, followed by 31% who desired moderate improvements. The study in Tilagor eco-park, which showed that the majority (57%) of the respondents felt that this eco-park needed huge improvements, followed by 35% who desired for moderate improvements (Akhter, 2008).

Most of the respondents (80%) knew about the park from their friends, 18% learned about it from their relatives, and 2% from the mass media. In the study in Baldha garden (Botanical garden) of Dhaka city, most of the respondents (59%) knew about the place from their friends, 11.75% from their relatives, and 22.75% from the mass media (Chowdhury, 2006). From the studies it can be said that the mass media can play an important role in tourism development

The interviewed visitors were asked to identify problems in the study areas. The findings revealed that 80% of the visitors faced problems with accommodation and drinking water, followed by food (77%), sanitation (73%), security (40%), communication (26%) and guides (10%). In the study done in Baldha garden (Botanical garden) of Dhaka city, 76% of the respondents mentioned toilet problems, 68% emphasized security problems, and 58% respondents mentioned scarcity of drinking water (Chowdhury, 2006). From the studies it is evident that accommodation, food and sanitation problems need to be resolved in order to attract more tourists.

Tourism potential of Satchari National Park

The Satchari National Park is very rich in flora, with about 241 species. Fauna species include 24 mammals (including 6 species of non-human primates), 149 birds, 6 amphibians, and 18 reptiles (NSP, 2006b). Key mammals include Hoolock gibbon (*Hylobates hoolock*) Capped langur (*Trachypithecus pileatus*), Fishing cat

(*Prionailurus viverrinus*), Wild boar (*Sus scrofa*), Barking deer (*Muntiacus muntjac*) and Rhesus macaque (*Macaca mulatta*). The park is one of the last habitats for Hoolock gibbons and the rare bird species Hooded Pitta (*Pitta sordida*) in Bangladesh (Choudhury *et al.*, 2004).

There are many types of bamboo in the park such as *Bambusa burmanica* and *Melocanna baccifera* and various canes such as *Calamus guruba* and *Daemonorops jenkinsianus*. There are also many types of climbers, vines, herbs and shrubs. Tipra polli Tea garden is also an attraction for tourists (Ali, 2008). The field observations and the visitors study revealed that the opportunity to see wildlife and the beauty of nature attracts many visitors, although a number of improvement and developments are needed.

Satchari National Park was declared with the primary objectives of conservation and management of both flora and fauna in their natural state, with access for research, education, culture and public recreation allowed. The present study revealed that the visitors' willingness to come to Satchari National Park was extremely satisfactory. About 98% of those interviewed responded positively to returning in the future. In the study done in Baldha garden (Botanical garden) of Dhaka city, about 94.75% of the respondents said that they would return. (Chowdhury, 2006). This study reflects the potential of park visitors and the level of their satisfaction with the existing facilities. If the authorities take proper steps to solve the problems mentioned by the visitors to Satchari National Park, it would be an excellent international tourism spot.

Conclusion

Tourism in Satchari National Park is a very new development. In order to develop this sector further, a separate management plan and an action plan for tourism should be developed. Many people come to Satchari National Park to see forests, wildlife, and natural beauty, and to visit the surrounding attractions. The park has good potential for ecotourism, although it does not offer any lodging facilities. The Government of Bangladesh can create opportunities to develop the tourist industry (ecotourism) based on protected areas. Tourism as a wildlife and forest conservation and sustainable

development tool can be promoted, and from a community perspective it is expected to provide benefits that will ultimately enhance local support for the conservation of natural resources. The results of the study did not reveal any negative attitudes about tourism development at Satchari National Park, but this could change in the future as tourism develops. Therefore, further studies will be needed to gather quantitative data on the performance of tourism at the protected areas in terms of ecological, socio-economic, and community conservation levels.

Acknowledgements

The authors extend their heartfelt gratitude to Mr. Md. Sharif Ahmed Mukul, Department of Forestry and Environmental Sciences, Shahjalal University of Sciences and Technology, Sylhet, Bangladesh, for providing necessary literatures during manuscript preparation. They also appreciated the hearty cooperation of the residents of the study area during the time of the field data collection.

References

- Akhter, S. 2008. **Present status and potentiality of North Sylhet range-1 and Rajkandi range of Sylhet forest division.** B.Sc. (Hons.) Project paper. Department of Forestry, Shahjalal University of Science and Technology, Sylhet. Bangladesh. 68pp.
- Ali, D. 2008. **Present status and Tourism potentiality of Sylhet forest division, Bangladesh.** B.Sc. (Hons.) Project paper. Department of Forestry, Shahjalal University of Science and Technology, Sylhet. Bangladesh. 55pp.
- BBS/UNDP (Bangladesh Bureau of Statistics/ United Nations Development Programme). 2005. **Compendium of Environment statistics of Bangladesh.** Ministry of Planning, Government of the People's Republic of Bangladesh. 12-227 pp.
- Borrie, W.A.T., McCool, S.F. and G.H. Stankey. 1998. **Protected Area Planning Principles and Strategies.** In: Lindberg, K., Wood, M.E. and Engeldrum, D. (Eds). *Ecotourism: A guide for Planners and Managers. Volume 2.* 133-154. pp.
- Butler, W.R. and W.S. Boyd. 2000. **Tourism and National Parks: a Long but Uneasy Relationship.** In: Butler, W.R. and Boyd, W.S. (Ed). *Tourism and National Parks: Issues and Implications.* John Wiley and Sons Ltd, UK. 70-75 pp.
- Cebalos-Lascurain, H. 1993. **Ecotourism as a Worldwide Phenomenon.** In: Lindberg, K. and Hawkins, D.E. (Eds). *Ecotourism: A Guide for Planners and Managers.* Natraj Publishers, Dehradun, India. 80-83 pp.
- Chape, S., Blyth, S., Fish, L. and M. Spalding. (Eds). 2003. **United Nations List of Protected Areas.** IUCN, Gland, Switzerland and UNEP-WCMC, Cambridge, UK 44 pp.
- Choudhury, J.K., Biswas, S.R., Islam, M.S., Rahman, O. and S.N. Uddin. 2004. **Biodiversity of Satchari Reserved Forest, Habiganj.** IUCN, Bangladesh Country Office, Dhaka, Bangladesh. 30 pp.
- Chowdhury, S. H. 2006. **Ecotourism potentiality of Baldha garden, Dhaka city, Bangladesh.** B.Sc. (Hons.) project paper. Department of Forestry, Shahjalal University of Science and Technology, Sylhet. Bangladesh. 7-72 pp.
- Drumm, A. and A. Moore. 2005. **Ecotourism Development: A Manual for Conservation Planners and Managers.** Arlington, VA: The Nature Conservancy. 55pp.
- Fiallo, E.A. and S.K. Jacobson. 1995. **Local communities and protected areas: attitudes of rural residents towards conservation and Machalilla National Park, Ecuador.** *Environmental Conservation* 22 (3), 241-249.
- Government of India (GOI). 1994. **National Tiger Action Plan.** Ministry of Environment and Forests, Government of India, New Delhi. 44pp.
- Goodwin, H. 1996. **In pursuit of ecotourism.** *Biodiversity & Conservation* 5(3): 277-292.
- Ghimire, B.K. and M.P. Pimbert. 1997. **Social change and conservation: an overview of issues and concepts.** In: Krishna, P.G. and Michel, P.P. (Eds) *Social Change and Conservation.* Earthscan Publications Limited, London. 1-45 pp.
- Hales, D. 1989. **Changing concepts of national parks.** In: Western, D. and Pearl, M. (Eds) *Conservation for the Twenty-First Century.* Oxford University Press, London. 139-144 pp.

- Hannah, L. 1992. **African people, African parks: an evaluation of development initiatives as a means of improving protected area conservation in Africa.** USAID/Biodiversity Support Program/Conservation International, Washington. 145pp.
- Ite, U.E. 1996. **Community perceptions of the Cross River National Park, Nigeria.** *Environmental Conservation* 23 (4), 351–357.
- Jashimuddin, M. and M. Alamgir. 2005. **Visitors of urban green space based recreation: A case study from Chittagong Metropolitan Area.** *The Chittagong University Journal of Science* 29 (2): 45-52.
- Landell-Mills, N. and I.T. Porras. 2002. **Silver bullet or fools' gold? A global review of markets for forest environmental services and their impact on the poor.** International Institute for Environment and Development. London. 254 pp
- Lindberg, K. and J. Enriquez. 1994. **An Analysis of Ecotourism's Economic Contribution to Conservation and Development in Belize.** Belize City, Belize, WWF/Ministry of Tourism and Environment. 105 pp.
- Luck, M. 2003. **Education on marine mammal tours as agent for conservation - but do tourists want to be educated?** *Ocean and coastal management* 46: 943-956.
- Mehta, J.N. and S.R. Kellert. 1998. **Local attitudes towards community-based conservation policy and programmers in Nepal: a case study of the Makalu-Barun conservation area.** *Environmental Conservation* 25 (4): 320–333.
- Nishat, A., Huq, S., Imamul, M., Barua, S., Reza, P., Ali, A.H.M. and M.A.S. Khan. 2002. **Bio-ecological Zones of Bangladesh.** IUCN, Bangladesh. 141pp.
- NSP. 2006a. **Site Information Brochure: Satchari National Park.** Nishorgo Support Project, Bangladesh. 8pp.
- NSP. 2006b. **Protected Areas of Bangladesh: A visitor's guide.** Nishorgo Support Project, Dhaka. 41pp.
- Rao, K. 1996. **Management problems: people in protected areas.** Proceedings of the SAARC Workshop on Wildlife Management, Dehradun, India.
- Sharma, R., DeCosse, P., Khan, M. and A. Mazumder. 2005. **Co-Management of Protected Areas in South Asia with special reference to Bangladesh.** Nishorgo Support Project, Dhaka, Bangladesh. 16pp.
- Vantomme, P., Markkula, A. and R.N. Leslie. 2002. **Non-wood forest products in 15 countries of tropical Asia: A regional and National overview.** FAO-RAP, Bangkok. 15-24 pp.
- Walpole, M. J. and H.J. Goodwin. 2000. **Local economic impacts of dragon tourism in Indonesia.** *Annals of Tourism Research* 27: 559–576.
- Walpole, M. J., Goodwin, H.J. and K.G.R. Ward. 2001. **Pricing policy for tourism in protected areas: lessons from Komodo National Park, Indonesia.** *Conservation Biology* 15: 177-185.
- Wells, M., Brandon, K. and L. Hannah. 1992. **People and Parks: Linking Protected Area Management with Local Communities.** World Bank, Washington, DC. 122pp.
- Western, D. and M. Wright. 1994. **Natural Connections: Perspectives in Community-Based Conservation.** Island Press, Washington, DC. 110pp.

Authors' address: Department of Forestry and Environmental Science, School of Agriculture and Mineral Sciences, Shahjalal University of Science and Technology, Sylhet- 3114, Bangladesh. E-mail: parvez_200207@yahoo.com

Table 1: Visitors profile

SAMPLE CHARACTERISTIC	%	SAMPLE CHARACTERISTIC	%
Age (n = 30)		Gender (n = 30)	
15-25	23.33	Male	76
25-35	43.33	Female	24
35-45	20		
45-55	10		
55+	3.33		
Occupation (n = 30)		Education (n = 30)	
Agriculture	6.67	S.S.C	27
Business	23.33	H.S.C	36
Employee	36.67	Graduate	30
Students	33.33	Masters	7
Problems identified by the visitors (n=30)		Potentiality of visitors (People's willingness of coming here in future) (n = 30)	
Sanitation	73	Yes	98
Drinking water	80	No	2
Security	40		
Communication	26		
Accommodation	80		
Food	77		
Guiding	10		
Monthly income (n = 30)		Visiting season (n = 30)	
Agriculture	6500	Spring	45
Business	13500	Autumn	23
Employee	12000	Summer	12
Students	0	Winter	20
Source of information (n = 30)		Frequency of visit (n = 30)	
Friends	80	1st time	72
Relatives	18	2nd time	18
Mass-media	2	>2 time	10
Existing Facilities (sufficient or not) (n=30)		Visiting day (n = 30)	
Need huge improvement		Holydays	33
Need moderate improvement	18	Spare time without holyday	67
Satisfied	31		
	51		
Monthly Income (n = 30)	Tk	Nature of the visit (n = 30)	
Agriculture	6500	Individual	8
Business	13500	Friends	55
Employee	12000	Couple	15
Students	0	Family	20
		Institute	2