



## The Management of Bhawal National Park, Bangladesh by the Local Community for Resource Protection and Ecotourism

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### Abstract

Local community participation in ecotourism activities and resource protection and in protected areas can be pursued through collaborative management. At present, the natural resources of the park are degrading due to indiscriminate use by the locals and visitors mainly in the form of encroachment and tourism incompatible activities. The local community was left out in decision making process where the core problem still not addressed. This study investigates the problems that affected natural resources and local community involvement in management to mitigate such problem. A survey was conducted in Bhawal National Park (BNP), Bangladesh in December 2006 to February 2007 involved 215 respondents comprising of personnel of the National Park and local community. The respondents include nature guides, food and transportation providers. It is administered by using structured interview questionnaires to elicit opinions from the respondents based on convenient sampling technique. Various statistical analysis namely Exploratory Data Analysis (EDA), Descriptive statistics, Chi-square ( $\chi^2$ ), Mann-Whitney test and Kruskal-Wallis test (non-parametric) were used for data analysis. Results showed that the relationship between the local community and park administration is not significant where their participation in the management is minimal. In overall the study provides the premises where the local community supported their participation in the decision making process and participate in management for a better stewardship of the park.

**Keywords:** Collaborative management, Ecotourism, Participation, Decision-making, Local community

### 1. Introduction

Community collaboration in decision making process is increasingly being sought in the development and management of protected areas. Meanwhile, in promoting both the quality of life of the people and the management or conservation of resources such as in ecotourism able to recognises the direct involvement of local communities (Abdullah 2000; Abdullah, 2008). The systems of conserving the landscapes have evolved as a result of interactions between people and nature exists in all national parks in England and Wales and some in Germany and other countries in Europe (Green and Paine, 1997). In ecotourism, the locals who live in nearby or within the protected area have benefited from its development where it requires local community participation in its various activities and services. This has improved their livelihood by participating in the businesses that have expanded. In some cases, park management has often keep local people out, following the view that human activities are incompatible with ecosystem conservation (Wells and McShane, 2004). Of late however, it is widely acceptable that due to the management limited capacity local

communities can to play an effective role in assisting park management to achieve sustainable use of the area. Here, the locals are considered important as the direct stakeholders and able to participate in the management in ensuring the sustainable use of resources. Cater (1994) and Lumpkin (1998) suggested that local communities could play an active role in ecotourism industry, and they could even take more responsibility in managing local ecotourism sector. Nevertheless, certain form of arrangement and collaboration in park between the management and the local communities has to be formulated for the success of ecotourism in this situation. The members of local community should be given some rights to operate and deliver ecotourism activities in the protected areas. They should be responsible for the safety of the resources while performing their daily activities. But, they are unable to participate fully in the resource protection activities as the current arrangement is still unstructured (Mohd Arif et al., 2002) and the results from many efforts to balance local people's interests with protected area management in developing countries are disappointing (Well and McShane, 2004).

Traditionally, indigenous and local communities are restricted from extracting resources from protected areas especially national parks. This has resulted in the marginalization and displacement among the people (Wells and Brandon, 1992). It has also perpetuated resentment that divided the locals and managers. By excluding people living in adjacent or within the park without providing viable economic alternatives and without inclusion in the decision-making process is politically and socially infeasible. Park managers have to recognise that the traditional "fence and fines" management regime is not effective anymore and a new regime of protected area management must be upheld. The procedure must include cooperative, collaborative relationships with local stakeholders who share the responsibility of management (Lane, 2001). The framework for integrating community participation involved many strategies including local people help in gathering the required information. The managers can later gather them, which eventually shared with the communities. Local people can provide feedback on the management approaches, its implementation, and/or during the evaluation stage (Wells and Brandon, 1992). In addition to providing information to community members, education and training in project activities may improve community members' capabilities (USAID, 2003). Some of these include conducting workshops, identifying leaders in the community to carry out activities, developing educational materials, developing economic alternatives, linking up with other organizations, forming local committees, developing incentives, and conducting public meetings to inform the community. However, protected areas are often created without any form of public involvement or agreement. There is often a situation where mistrust on the part of community members. Thus, in order to get the communities involvement, the first steps is establishing relationships and trust, as well as building capacity within the communities to be able to make informed decisions. Another major criterion is accessibility to participation and accountability of proper procedures that are credible to participants (Petrova et al., 2002). The interested parties must have access and be able to obtain information about how to participate in the process. The communities have the right to intervene in the decision-making process, and should be able to express their views and opinions.

Community involvement in protected area management has been recognised as a key component in management plans to achieve conservation goals. But in many situation, there is still a lack of effective participation and strong link between the communities and external conservation agencies (Wells and Brandon, 1992). There is also the problem that local communities have not been empowered to manage their own resources without outside interference (Little, 1994). Thus, one element that is critical to community participation is the empowerment of indigenous or local populations and ensuring that they have a role in the decision-making process (Murphree, 1993). Participation is a process taken over a long period of time which can be viewed as a goal to empower local communities to have greater control over their lives and resources and as a means of achieving improved social and economic objectives (Little, 1994). Hence, effective public participation programs provide a forum to integrate social and environmental concerns into the decision-making process, thereby uniting different stakeholders and (ideally) reducing conflicts (Petrova, et al., 2002). Public participation assists in identifying and understanding the communities' interests and provides an avenue to integrate social and environmental concerns into the decision-making process and thereby make decisions that support sustainable development. It also provides a means to manage social conflicts by bringing different stakeholders together (Petrova et al., 2002). In addition, the following benefits can be obtained from public participation (UNDP, 2000), namely (a) It can increase the effectiveness of activities that are based upon local knowledge and understanding of problems and therefore be more relevant to local needs, (b) It helps to build local capacities and develop the abilities of local people to manage and to negotiate activities, (c) It can identify key stakeholders who will be most affected by the activities, (d) It can help to secure the sustainability of the activities as people assume ownership and (e) It can help to improve the status of women by providing the opportunity for them to play a part.

## 2. Methodology

Bhawal National Park (BNP) is one of the oldest national parks in Bangladesh encompassing an area of 5022 ha (Figure 1). The park was established in 1982 to protect the biological, ecological and geographic significance of the area, providing recreational facilities for the visitors. It is a moist deciduous forest known as Sal (*Shorea robusta*) forest, which spread over the plains of the central and northern regions of the country (FSB, 2000). BNP is situated about 40

kilometers away from Dhaka, the capital city of Bangladesh, along the highway of Dhaka-Mymensingh. About 180.25 (18 %) ha of this core area of the park was privately owned out of which only 24.38 ha. (13.5%) of land is transferred to government, i.e. forest department (FD) (Anon., 2002).

<Figure 1. Location of Protected Areas in Bangladesh>

Protecting natural resources was the only management approach in the early days. Conflicts occur between the local community and park administration for the rights, concessions and use of these lands. Illegal felling of trees and grazing of domestic cattle, the cattle and wildlife confrontation in the park is very common. Management of the BNP is limited to protection to trees, wildlife and controlling tourism. Around 250,000 tourists visited the park annually particularly during the winter months where about 50,000 to 70,000 tourists visited the park in a month (Anon., 2002). There are some local peoples who are self-employed involved as nature and community tourist guides. In BNP, the park resources are ineffectively protected as there are hundreds of people live in the villages surrounding the park where they gather fuel wood for own consumption and some earning money. There was serious illegal felling of trees and timbers theft. National park though is earning revenue from its different sources such as from angling, entry fees, rest houses, children parks, picnic spots and from cinema (film) shooting. The amount of annual income has shown an incremental rate ranging from US\$ 32,047.40 to 45,685.46.

Fieldwork was conducted in December 2006 to February 2007 and prior to this, a pilot survey was carried out in July 2006. Convenient sampling with structured interview questionnaires was used where a total 215 face-to-face interviews were completed. The samples were determined by using G Power (Faul and Erdfelder, 1992). The respondents included in this survey were park staff, local people working in the park and local communities from the three neighbouring villages. The representative ness of the sample was based on comparison with available demographic data and consultation with local informants. Of the 202 respondents interviewed, 181 were male (89%) and 21 were female (10%); 37% were between age group of 26 to 35 years and 56% has had primary education only; 51% had a monthly income between Tk. 3000-5000 (USD 43 -72); 83% had been working between 7-10 hr/day. Forty five percent of the respondents are with the national park management or activities and 45% of them were living in less than 1000 m from the national park boundary. Park's staff represented only 24.1% where 26.7% were involved in transportation, followed by food supplier (25.2%); and 21.9% are nature and community tourist guide Most of them are self-employed. The majority of the respondents involved in tourist transportation were rickshaw/van puller (66.7%) and rest of them (33.3%) was horse riders. The majority of the respondents involved with the park activities are below 5 years (38.4%), followed by 6 to 10 years (31.8%) and 11 to 15 years (16.4 and over 20 years are only 9.8 percent.

### 3. Results and discussion

It is important to assess the respondents' opinion towards their relationship with park administration as well as their level of participation in the management. Opinions sought from the respondents towards relationship and participation was classified under seven statements (Table 1). The statements having a mean score of more than 4.0 is considered as agreed by the respondents.

#### 3.1 Relationship based on respondent's socio-demographic background

The results indicate that most of the respondents disagreed with statements regarding relationship as the mean of each statement was very low based on 5-points score of measurement (Table 1). Statements which are concerned with the relationship of park administration namely (i) park administration meets and discusses about the ecotourism activities/issues with local community (Mean: 1.50); (ii) park administration discusses and gets opinions from local community in revising ecotourism operations (Mean: 1.41); (iii) park administration shares their latest information with the local peoples for the development of BNP (Mean: 1.52); (iv) local peoples can freely share their knowledge and opinions about steps/arrangements in service delivery (Mean: 1.53) and (v) park administration gives technical support to those locals who want to enhance their skill in ecotourism delivery (Mean: 1.63) showed poor score (Mean score is between 1.41 to 1.64) indicating their disagreement with the statement.

The other two statements, i.e. (i) local peoples are not responsible for taking care of the well-being of park resources including their protection (Mean: 4.31) and (ii) with the coordination of park administration, local peoples have the autonomy to arrange ecotourism activities (Mean: 4.12) are supported by them indicating their responsibilities and freedom in relation to park administration (Table 1). In line with these findings, Cihar and Stankova (2006) found that the relationships of residents to the Podyji NP itself and NP administration were sometimes different and not always favourable.

<Table 1. Perception on Relationship and Participation in Park management>

A Chi-square test of independence was conducted to assess the relationship between perceptions of the respondents and their main occupations. The findings of cross tab analysis regarding perception and main occupations showed that there is significant relationship between respondents and park administration (Table 2). The statements (i) local peoples can freely share their knowledge and opinions about steps/arrangements in service delivery ( $\chi^2=9.102$ ;  $p=.028$ ) and (ii) park

administration was found to have significant relationship and gives technical support to those locals who want to enhance their skill in ecotourism delivery ( $\chi^2=13.555$ ;  $p=.009$ ) have shown significant relationship. These relationships suggested that, in general, the respondent related to park administration might know about their interactions with the park comparing to those who are not directly related to the national park activities.

<Table 2. Perception on Relationship based on Respondents main Occupation>

### 3.2 Participation of local community in park management

Local community participation in national park management is a very important issue nowadays for various reasons including the protection of resources and ecotourism. In relation to this management concept, it was an important objective of this study to know the level of participation. The mean scores of perceptions of the respondents (Table 3) indicate that there is no participation of local community in the park management. In Table 3, most of the respondents were strongly disagreed with the statement containing their participation such as (i) park administration meets and discusses about the ecotourism activities/issues with local community (Mean: 1.50); (ii) park administration discusses and gets opinions from local community in revising ecotourism operations (Mean: 1.41); (iii) park administration shares their latest information with the local peoples for the development of BNP (Mean: 1.52);

(iv) local peoples can freely share their knowledge and opinions about steps/arrangements in service delivery (Mean: 1.53). However, some of the local peoples are working in the national park for the tourism services. This arrangement is not officially documented and accepted due to the existing protected area management policy of the government. They are not directly participating in the park management. Cihar and Stankova (2006) found similar results and added that the resident had no real participation in the process of planning and decision making of Podyji NP in Czech Republic. Contrastingly, in Annapurna, Nepal, locals are also involved in planning and decision making, in addition to accommodation and food services and thus generating income and ensuring their local ownership (Nyaupane et al., 2006).

However, statistical analysis shown that there are significant differences in perceptions of the respondents based on their main occupation. Mann-Whitney test (Table 3) shows that (i) local peoples can freely share their knowledge and opinions about steps/arrangements in service delivery and (ii) park administration gives technical support to those locals who want to enhance their skill in ecotourism delivery have significance differences regarding their participation in the park management. It seemed that the respondent related to park might know about their participation comparing to those who were not directly related to the national park.

<Table 3. Perception on Participation based on Respondents main Occupation>

Respondents' have shown relationship with park management based on their education level (Table 4). Kruskal-Wallis test shown that there is significant difference in perception that park administration gives technical support to the locals to enhance their skill in ecotourism delivery ( $\chi^2=10.321$ ;  $p=0.035$ ). Higher education seemed to realise the technical support given to them than that of lower educated respondents. Similarly, there are significance differences in perceptions of respondents who live at different distances from the park such as (i) park administration meets and discusses about the ecotourism impacts upon local community ( $\chi^2=11.107$ ;  $p=0.025$ ) and (ii) discusses and gets opinions from local community in revising ecotourism operations ( $\chi^2=10.312$ ;  $p=0.035$ ). Hence, respondents who live closer to the park could easily be familiar with the activities of the park compared to those who live further away.

<Table 4. Perception on Participation based on Socio-demographic Background>

In the national park, local peoples occupation include those who work as food suppliers, tourists' transportation and as nature tourist guides who are able to recognised their relationships with the park (Table 3). The statements such as (i) local peoples can freely share knowledge and opinions about steps/arrangements in service delivery ( $\chi^2=17.778$ ;  $p=0.001$ ); (ii) local peoples are responsible for taking care of the well-being of park resources including their protection ( $\chi^2=12.104$ ;  $p=0.017$ ) and (iii) park administration gives technical support to those locals to enhance their skill in ecotourism delivery ( $\chi^2=21.552$ ;  $p=0.000$ ) showed significant differences in perception of respondents having different park-related occupations. Here, people with better socio-demographic background, park staff and locals who works in the park have clearer views about the park due to their involvement in various park's activities.

## 4. Conclusions

The perception on local peoples to freely share their knowledge and opinions in service delivery while the park administration gives support to the locals to enhance their skill in ecotourism delivery is evident. The proposition is highly depended on their education levels, distance of their home to the park and the peoples' occupations related to the park. Here, most of the people are informally working in the park mainly in tourism to support their livelihoods. Added to this, the perception among the locals upon the park role will improve significantly if their employment is directly dependent on the well-being this reserve. Conflicts arise as private land owners the park cultivate crops, cut trees and grazing cattle inside the park. Co-management in resource protection involves technical knowledge shared by both parties through training programmes. The competencies of local communities as message deliverers in tourism activities should be continually improve in producing a well rounded person in resources conservation. Also, the locals should

share their indigenous knowledge and be highly prepared in such resource protection practices. The management need to pursue the idea and motivate the locals to be proactive and innovative in the delivery of activities and resource protection. Best practice on resource management should be promoted to locals to enable them to identify the compatible activities and to inform the management about the impacts of tourism activities.

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Table 1. Perception on Relationship and Participation in Park management

Statements	No. of respondents (n=202)					Mean	SD
	SDA (1)	DA (2)	UD (3)	A (4)	SA (5)		
a. Park administration meets and discusses about the ecotourism activities/issues with local community	101	99	2	-	-	1.50	.52
b. Park administration discusses and gets opinions from local community in revising ecotourism operations.	120	81	1	-	-	1.41	.50
c. Park administration shares their latest information with the local peoples for the development of BNP.	102	96	2	2	-	1.52	.57
d. Local peoples can freely share their knowledge and opinions about steps/arrangements in service delivery.	101	96	4	1	-	1.52	.57
e. Local peoples are not responsible for taking care of the well-being of park resources including their protection.	1	4	14	96	87	4.30	.72
f. Park administration gives technical support to those locals who want to enhance their skill in ecotourism delivery.	100	84	10	7	1	1.63	.77
g. With the coordination of park administration, local peoples have the autonomy to arrange ecotourism activities.	-	8	22	109	63	4.12	.75

Note: SDA (1): Strongly Disagree; DA (2): Disagree; UD (3): Undecided; A (4): Agree and SA (5): Strongly Agree

Table 2. Perception on Relationship based on Respondents main Occupation

Statements (n= 202)	Chi Square Test of Independence		
	Chi Square ( $\chi^2$ )	df	(Sig.)
a. Park administration meets and discusses about the ecotourism activities/issues with local community.	3.721	2	0.156
b. Park administration discusses and gets opinions from local community in revising ecotourism operations.	2.118	2	0.347
c. Park administration shares their latest information with the local peoples for the development of BNP.	3.396	3	0.334
d. Local peoples can freely share their knowledge and opinions about steps/arrangements in service delivery.	9.102	3	0.028*
e. Local peoples are not responsible for taking care of the well-being of park resources including their protection.	4.687	4	0.321
f. Park administration gives technical support to those locals who want to enhance their skill in ecotourism delivery.	13.555	4	0.009**
g. With the coordination of park administration, local peoples have the autonomy to arrange ecotourism activities	1.955	3	0.582

Note: \* Statistically significant at 5% level; \*\* Statistically significant at 1% level

Table 3. Perception on Participation based on Respondents main Occupation

Statements (n= 202)	Mann-Whitney Test	
	U Statistic	(p-value)
a. Park administration meets and discusses about the ecotourism activities/issues with local community.	4545.00	0.160
b. Park administration discusses and gets opinions from local community in revising ecotourism operations.	4777.50	0.438
c. Park administration shares their latest information with the local peoples for the development of BNP.	4598.50	0.211
d. Local peoples can freely share their knowledge and opinions about steps/arrangements in service delivery.	4078.50	0.007**
e. Local peoples are not responsible for taking care of the well-being of park resources including their protection.	4432.50	0.097
f. Park administration gives technical support to those locals who want to enhance their skill in ecotourism delivery.	3773.00	0.001**
g. With the coordination of park administration, local peoples have the autonomy to arrange ecotourism activities	4924.50	0.735

Note: \* Statistically significant at 5% level; \*\* Statistically significant at 1% level

Table 4. Perception on Participation based on Socio-demographic Background

Statements	Kruskal-Wallis Test		
	Education (n=202)	Distance (n=202)	Park related occupation (n=202)
Park administration meets and discusses about the ecotourism activities/issues with local community	2.399 (0.663)	11.107 (0.025*)	2.763 (0.598)
Park administration discusses and gets opinions from local community in revising ecotourism operations	3.877 (0.423)	10.312 (0.035*)	3.751 (0.441)
Park administration shares their latest information with the local peoples for the development of BNP.	6.744 (0.150)	4.587 (0.332)	6.208 (0.184)
Local peoples can freely share their knowledge and opinions about steps/arrangements in service delivery.	2.795 (0.593)	3.022 (0.554)	17.778 (0.001**)
e. Local peoples are not responsible for taking care of the well-being of park resources including their protection.	1.357 (0.852)	3.106 (0.540)	12.104 (0.017*)
f. Park administration gives technical support to those locals who want to enhance their skill in ecotourism delivery.	10.321 (0.035*)	5.588 (0.232)	21.552 (0.000**)

Note: \* Statistically significant at 5% level; \*\* Statistically significant at 1% level