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Ecotourism and Protected Area Conservation in Bangladesh: a Case Study on Understanding the Visitors Views on Prospects and Development

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Abstract
Protected area based ecotourism is now the most interesting topic to the nature lover and policy maker throughout the world because of its linkage with economic benefits, protected area management and biodiversity conservation. Based on this premise our study explores the visitors’ perception on the recreational potential of Kaptai National park and its potentiality in ecotourism development in Bangladesh. The field survey was carried out both in holidays and non-holidays of the week from the late winter season in 2009 to the spring season in 2010. A total of 118 visitors were interviewed with the help of a semi-structured questionnaire. Study findings revealed that about 62% male constitute the visitors group with the maximum number of visitors in the age of between 15-25 years (35.59%). The tourists were very much attracted by boat riding (93.22%) followed by scenic beauty of Rampahar-Sitapahar (85.59%). A major portion of about 57.14% tourists wished to visit the park within a year because they got a lot of pleasure from Natural and green environment (86.44%) followed by boating on Kaptai Lake (85.59%). Most of the visitors (36%) were happy about existing facilities but defined some problems such as tour guiding facility, food and drinking water supply, etc. About 71% and 66% respondents perceived that Kaptai National Park made them to be concerned and protective of nature and supports and sustains local ecosystem respectively and 43% respondents agreed that Kaptai National Park ensures the social equity and involve local people in ecotourism which are the most important elements of sustainable ecotourism. The present study results also predict that the park might be a good recreational area for enjoying with family members and group of friends through proper management and promoting the relationships among tourism, local people and biodiversity conservation.

Key Words: attractiveness level, kaptai national park, perception, recreation facilities, visitors’ satisfaction

Introduction
Tourism or ecotourism is an increasingly indispensable factor of economic, social and cultural development and it has become one of the largest global activities (Western 1993) in both developing and developed countries and constantly strives to gain a larger share of its benefits (Sultana 2001). A number of definitions as to what is an ecotourism traveler have emerged over the years. The Ecotourism Society (TES 1998) defines “ecotourism as responsible travel to natural areas, which conserves the environment and sustains the well-being of the local people”. Nature or forest based tourism is a key category of ecotourism, one of the fastest growing sectors of the world (Landell-Mills and Porras 2002).
Protected areas (PAs), the most effective and widespread strategy for conserving forest and wetland biodiversity of the world (Lewis 1996; Kramer et al. 1997; Mulongoy and Chape 2004; Mukul 2007) and becoming more popular destinations for wildlife tourists of national and international origin which covers nearly 12% of the world's land surface (Tuxill and Nabhan 2001; Chape et al. 2003; Scherr et al. 2004). PAs have played significant role as tourist's attractions in many countries since their establishment (Butler and Boyd 2000). Ecotourism conserve PAs by three ways: first, ecotourism may reduce or eliminate traditional resource use; second, tourists may support the importance of tourism benefiting local peoples and third, when resident received benefits they are more likely to support tourism and conservation, even to the point of protecting the site against poaching or encroachment (Lindberg 1993).

In Bangladesh, one of the world's most populated nations, PAs cover only 1.67% of the total land area (Tuxill and Nabhan et al. 2001; Chowdhury and Koike 2010) and presently there are about 32 notified and some other declared PAs in Bangladesh. Bangladesh Forest Policy-1994 placed great emphasis on ecotourism where states "ecotourism is recognized as forestry activities that should be promoted within the carrying capacity of nature" (Ahsan 2007). Besides, National Tourism Policy was declared in 1992 with the objectives, among others, to create interest in tourism among the people, to preserve, protect, develop, and maintain tourism resources, to take steps for poverty-alleviation through creating employment, and to open up a recognized sector for private capital investment (NTO 2009). PA based ecotourism that can give rise to economic benefits to local communities as well as to the nation (Ite 1996; Goodwin 1996; Walpole and Goodwin 2000; Walpole et al. 2001). Yet, PA based ecotourism industry is not properly developed in Bangladesh as lack of attention it. Vantomme et al. (2002) reported that, less than 10,000 foreign tourists visited in Bangladesh as lack of attention it. Vantomme et al. (2002) reported that, less than 10,000 foreign tourists visited Bangladesh in the year of 1992 and in 2003 this figure was little or more than 244,003 (Hasan 2006). In the year of 2004-2005 and 2005-2006, approximately 271,270 and 300,000 tourists visited Bangladesh and earned more than 3,967 million Tk. (Tk. means Taka, Bangladeshi currency, 1 US$=approximately 83 Tk. as of November 2012) and 4000 million Tk. respectively to the domestic economy (Amin 2006). So, it is easily said that, potentiality of ecotourism industry in Bangladesh is increasing rapidly day by day.

However, still now a little trustworthy or published information is available regarding the ecotourism potentialities of PAs of Bangladesh. From this context, the present study was conducted in Kaptai National Park (KNP) which is situated in the Chittagong Hill Tracts of Bangladesh to explore the visitor's perception on the recreational potential of PA as well as importance of PA in ecotourism development in Bangladesh and potentiality of ecotourism in conservation of protected area. The main hypothesis of this study was that nature based tourism or ecotourism may bring changes on the thoughts of peoples, forest managers and policymakers about PA management side by side local communities will be benefited from the ecotourism activity; local cultural activities can be shared worldwide through the visitors as well as ensure the PA conservation. We tried to evaluate visitors' attractiveness and satisfaction level together with their views on existing management condition after experiencing the existing environmental attributes. This may help the planner to develop an effective plan for sustainable management, improvement of protected areas which in turn may explore the prospects of PA for ecotourism development and biodiversity conservation in Bangladesh. Taking this in mind, the following research questions are addressed:

1. Do KNP posses the ecotourism potentiality as a protected area?

2. What are the important environmental services of the KNP that attracts the visitors most and is there any impact of PA on ecotourism?

3. Do the existing landscapes of KNP affect levels of satisfaction of visitors, if it is then how much?

4. What are the problems encountered by the visitors during visit in KNP and what are their perception to resolve this problems?

5. How likely are the visitors to revisit the park with potential future changes in the park setting?

Materials and Methods

Site profile

The present study was conducted in most famous PA in Bangladesh called Kaptai National Park (KNP) (Fig. 1).
KNP is the most attractive PA in the Indo-Pak Sub-Continent. It is situated at Kaptai upazilla (sub-district) which is approximately 57 km north-east away from Chittagong city and near to the river Karnafuli, surrounding Sitapahar-Rampahar and the forest administrative area is known as the Kaptai Forest Range. The main objective of the establishment of this park is to explore the natural scenic beauty of natural forest and the 1871’s artificial plantation of Teak (Tectona grandis) and other valuable tree and bamboo species; the natural beauty of the Kaptai Lake, surrounding Sitapahar-Rampahar, various wildlife habitat diversity to the local and foreign tourists. Below Table 1 describes the main features of the KNP.

Data collection

A reconnaissance survey was carried out in order to identify the major environmental attributes that the viewers usually like to enjoy staying on the park. This environmental attributes were identified talking with the 30 randomly selected people ranging from park personnel to visitors. After that, a semi-structured questionnaire was designed for interviewing the respondents. Primary data was collected both in holiday and non-holiday of the week from two most peak tourists seasons e.g., late winter (December, 2009) to spring (February-March, 2010) following the transect method to reach the respondents (visitors) and for the selection of the respondents we put emphasize on their age maturity. A total of 118 respondents were interviewed randomly to avoid serious biasness including their demographic features and occupational groups. The respondents were free to answer the questions and express their opinion. The questions those were covered in the study were related

Fig. 1. Location map of the study area.
Table 1. Site profile of Kaptai National Park

<table>
<thead>
<tr>
<th>Items</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forest type</td>
<td>Kaptai National Park was declared as National Park and formerly known as Sitapahar Reserved Forest at 9 September 1999.</td>
</tr>
<tr>
<td>Location</td>
<td>KNP is located in Rangamati Hill District over Karnafuli river and Kaptai Ranges under Chittagong Hill Tracts (CHT) (South) Forest Division. The area lies between 22°26’ and 22°38’ north latitude and between 92°8’ and 92°17’ east longitude.</td>
</tr>
<tr>
<td>Area</td>
<td>Total area: 5,464.78 ha (13,498 acres).</td>
</tr>
<tr>
<td>Forest type</td>
<td>Tropical evergreen to semi-evergreen forests.</td>
</tr>
<tr>
<td>Climate</td>
<td>The climate is tropical monsoon. Total annual average rainfall: 254 cm; hottest months: October to May; average maximum temperature: 25.5°C; coldest months: June to September; average minimum temperature: 15.6°C; December is the driest month when there is no rainfall; July is wettest when the average rainfall is about 1257 mm.; relative humidity on an average is over 90% during round the year whereas in December it gets to about 74%.</td>
</tr>
<tr>
<td>Topographic characters</td>
<td>Topography: The topography of CHT south forest division is diversifed with almost flat land to medium to high hillocks. This area has dissected low hills of less than 100m elevation. Approximately 10% of the landscape is occupied by flood plains. These areas are well drained. Soil texture: Soils of the site are sandy to sandy loam on highlands and clayey to silty clay in depressions. From the vegetations of the sites it is anticipated that the soil is quite acidic.</td>
</tr>
<tr>
<td>Floral diversity</td>
<td>More than about 412 plant species.</td>
</tr>
<tr>
<td>Faunal diversity</td>
<td>Mammals: 37; Amphibians: 7; Reptiles: 18; Bird: 167; Key fauna: Jackals, Wild boar, Elephants, Wild pig, Rhesus Macaque, Porcupine, Squirrel, Indian Leopard, Sambar and Barking deer. Of the reptiles, King Cobra, Monitor Lizard and Bengal Monitor Lizard are common.</td>
</tr>
<tr>
<td>Important attractive features</td>
<td>The green hills, vast Kaptai lake, numerous springs as well as the unique life style of 13 ethnic communities such as Marma, Chakma, Phakha, Tripura, Lua, Tanchonga, Mug, etc. attract tourist. Besides, there are many other fascinating things or places where the tourists visit such as, Karnafuli Paper Mills (KPM), Kaptai Hydro Electric Project, NAVY picnic spots, etc. Also various Adventure events like: Boating, Picnic spots, Speed boat cruising, Water skiing, Hiking.</td>
</tr>
<tr>
<td>Accessibility</td>
<td>It is accessible by air, road or train from Dhaka up to Chittagong then by road.</td>
</tr>
<tr>
<td>Visitors</td>
<td>Visitors approximately (present) 50,000/year and entry fee Tk. 10/person.</td>
</tr>
</tbody>
</table>

Sources: BFD (2010), Rahman (2010).

to demography of visitors (e.g., age, education and occupation), visits to the park (e.g., frequency, season, time, purpose, form of visit, willingness to further visit), motivations for visiting the park, attractiveness on existing environmental services, their satisfaction level on different parameters of satisfaction with these environmental services, perception on sustainable tourism potential of the park and problems faced by them during visits. Choice experiment studies require important decisions to be made on the number of attributes, the number of levels for each attribute, what those levels should be, and how those levels and attributes should be described.

Each respondent were interviewed for about half an hour on average and the attributes and levels are combined such that a set of alternatives result, which is then presented to the respondents and they were asked to choose their preferred alternative from the set of alternatives of environmental services. Some kind of attitudinal inconsistency in responses to the questions was noticed in respondents throughout the interview because the respondents being surveyed while on leisure and could be feel that they should enjoy their leisure time rather than answer questionnaires. But after describing the purpose of the study, they deliberately responded. On the other hand, visitors in single and groups with friends, particularly the youths, participated in the interview spontaneously. No ecological biodiversity assessment method was used; only the information's were collected and assessed based on scanty literature on the park, official record, personal observations and informal talks with the Forest Department and park officials.
**Data analysis**

After data collection they were sorted out, compiled and then manipulated into convenient form as used in results and discussion parts. Respondents’ attraction level, level of satisfaction after enjoying different environmental attributes, perceptions about the existing conditions of services, potentiality of the park to meet up the sustainable ecotourism elements together with the managerial problems and likely responses to revisit the park again was first analyzed descriptively by frequencies and mean scores. The effects of environmental attitudes on their attractiveness and satisfaction were then enumerated with analysis of variance (One-way ANOVA) at 95% level of significance. All these analyses were conducted using the Statistical Package for Social Sciences (SPSS) software version 17.0.

**Results**

**Basic demographic features of the visitors**

A total of 118 visitors belonging to different socio-economic and occupational groups were surveyed during this study. The basic demographic feature of the surveyed visitors were presented through Table 2 during the survey it was observed that all age classes of people particularly youths’ are the most interested group on ecotourism or nature friendly tourism matter. Their participation was found to be the most prominent during data collection. Among the respondents interviewed male were the dominant figure accounting of 73 respondents (61.9%) like all other study and the rest of the respondents were female 45 (38.1%). In case of excursion tour people always come in group with their friends and/or family to make the moments most memorable. We also found that most of the visitors in the study area came in a group with friends (39%) followed by couple (27.1%), family category (10.1%). Very few tourists came in the park lonely (6.8%). It has already been mentioned that youths’ participation (35.6%) was most prominent among the different age classes. Most of them belong to the age class of 15 to 25 years while age classes of below than 15 years (13.6%) and more than 45 years (16.1%) had the least proportion. Education plays a vital role in determining the demand for recreational activities as well as raising awareness for nature conservation among people. Study findings revealed that educated people visit more frequently in the park than less educated or uneducated peoples. No visitors were found illiterate and most of the respondents were found to study in higher secondary level.

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td>Male 73 (61.86)</td>
</tr>
<tr>
<td>Age classification</td>
<td>&lt;15 73 (61.86)</td>
</tr>
<tr>
<td>Educational status</td>
<td>Primary 6 (5.08)</td>
</tr>
<tr>
<td>Occupation, income and marital status</td>
<td>Occupation 6 (5.08)</td>
</tr>
<tr>
<td>Sources of information</td>
<td>Friends 49 (41.33)</td>
</tr>
<tr>
<td>Visiting pattern</td>
<td>Individual 8 (6.78)</td>
</tr>
<tr>
<td>Travelling distance (km)</td>
<td>&gt;5 19 (16.11)</td>
</tr>
</tbody>
</table>

*No income; Parenthesis shows the percentage value.

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**Table 2. Basic demographic features of visitors in Kaptai National Park**

<table>
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<tr>
<td>Travelling distance (km)</td>
<td>&gt;5 19 (16.11)</td>
</tr>
</tbody>
</table>

*No income; Parenthesis shows the percentage value.*
(30.5%) followed by above higher secondary (Graduate, Post graduate) level was 28.8% and 14.4% visitors completed their secondary level education and rest of the respondent had primary level education.

Considering occupation, students play the leading role to gear up the recreational activities. Findings also revealed that 55.08% visitors were employed. Students were found as the major stakeholder (44.91%) during the survey followed by respondents having occupation as business (31.35%), job (18.64%), and agriculture (5.08%). Income of the respondents were also explored through this study. Among the different income groups businessman was the highest income persons in a month (Tk. 17,000). The second highest income group was the job, monthly income Tk. 14,000. In case of marital status unmarried people (33.05%) were observed mostly to visit the park for dating with beloved and the married people (66.95%) were found more frequent in holidays. Majority of respondents were informed from friends (41.53%) about the park followed by mass-media (25.42%) and relatives (22.88%) respectively (Table 2).

Time of the visit

In case of choosing the visiting time most of the tourists were found to prefer the winter and the spring season (64.26%) because on those seasons they feel that nature decorate her in a new fashion that is very enjoyable to see and comfortable to visit. Very few tourists were found to say about summer (30%) because of hot weather and the rainy seasons (6.74%) because in rainy season weather becomes dull and gloomy and rains may come anytime and would create problems. The tourists also preferred to visit on Friday and Saturday because it is holiday in the country. Study revealed that 62.83% visitors preferred to pass their time during holidays and the remaining 37.17% were desired to enjoy the scenarios of KNP except holidays (Table 2).

Travelling distance and frequency of the visit

Most of tourists come from other district and also from the distant area. Table 2, showed that 27.97% visitors come from a distances range of 5-50 km followed by 50-75 km distances (22.88%), 75-100 km distances (20.34%), >5 km distances (16.11%) and 100+ km distances (12.71%). From survey it was observed that the most of the tourists visited the park for first time (71.19%) followed by (17.80%) tourists more than second time and (11.02%) tourists visited second time. Frequency of revisit to the park was also enumerated in this study and the results revealed that most of the tourists visited the park on one year (57.14%), followed by (23.81%) at six month and (19.05%) at three month intervals.

Level of attractiveness and satisfaction from existing environmental attributes

The tropical rain KNP forest situated on the bank of river Karnafuli is amazing in its natural scenario. The respondents were asked to express their views on the attractiveness of several environmental services and their responses on different environmental attributes are represented in Table 3. Results revealed that about 93.22% (mean±SD=1.28±0.73, N=110) respondent said that boat riding is very attractive followed by 85.59% (mean±SD=1.35±0.74, N=101) for scenic beauty of

<table>
<thead>
<tr>
<th>Recreational facilities</th>
<th>Mean±SD</th>
<th>N</th>
<th>% of total N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boat riding in the Kaptai Lake</td>
<td>1.28±0.73</td>
<td>110</td>
<td>93.22</td>
</tr>
<tr>
<td>Natural and soothing environment</td>
<td>1.32±0.70</td>
<td>98</td>
<td>83.05</td>
</tr>
<tr>
<td>Scenic beauty of Rampahar-Sitapahar</td>
<td>1.35±0.74</td>
<td>101</td>
<td>85.59</td>
</tr>
<tr>
<td>Walking trails in the park</td>
<td>0.73±0.77</td>
<td>83</td>
<td>70.34</td>
</tr>
<tr>
<td>Watch tower to enjoy natural beauty of the landscape</td>
<td>0.76±0.78</td>
<td>85</td>
<td>72.03</td>
</tr>
<tr>
<td>Fishing in the Kaptai Lake</td>
<td>0.69±0.75</td>
<td>65</td>
<td>55.08</td>
</tr>
<tr>
<td>Rest-house and cottages of Forest Department</td>
<td>0.93±0.73</td>
<td>80</td>
<td>67.80</td>
</tr>
</tbody>
</table>

Reaction format value range, very much attractive, 2 to not attractive, 0; ±SD indicates standard deviation.

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Rampahar-Sitapahar and 83.05% (mean ± SD = 1.32 ± 0.70, N = 98) found very attractive for natural and soothing environment. However, fishing facilities in the Kaptai Lake (55.08%) and watch tower of Forest Department (72.03%) also attracts the tourists in both holidays and non-holidays. Significant results were found among the attributes at p = 0.05 significant level with F118 = 14.12, df = 621 (ANOVA). Surprisingly it was found that most of the tou-

![Fig. 2](image_url)

Fig. 2. Scenarios of in and around KNP which attracts the visitors (clockwise) (a) natural scenarios of Karnafali river (b) natural beauty of Kaptai Lake and Sitapahar forest (c) artificial structures in the bank of Kaptai Lake, (d) snacks bar in the Kaptai Lake bank, (e) house of ethnic people in KNP; (f) boat for riding and fishing.
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Tourists got a lot of pleasure from riding on boat than that of watching the scenic beauty of Rampahar-Sitaphar and natural and soothing environment (Fig. 2). A tourist who wants to pass an overnight individual and/or family to observe the amazing scenic beauty of night can easily stay in the 'Kaptai Forest Rest House', 'Kaptai Mukh Forest Rest House' and 'Panorama Picnic House' situated on the bank of Kaptai Lake.

Respondents' satisfaction levels were also evaluated on the existing environmental services and they were found quite satisfied with the services except wildlife viewing (Table 4). The mean results varied between satisfied to neutral level. Highest score was obtained for boat riding in Kaptai lake (mean±SD=1.94±0.99, N=101) followed by natural beauty of Rampahar-Sitaphar (mean±SD=1.92±1.07, N=100) and Natural and green environment of surrounding areas (mean±SD=1.69±1.05, N=102). However, 86.44% respondents found greater satisfaction enjoying the natural and green environment of Kaptai National Park followed by boat riding (85.59%) and natural beauty of Rampahar-Sitaphar (84.75%). Significant proportions of visitors are moderately satisfied or neutral with watch tower to enjoy natural beauty of landscape (16.2%) and walking in the roads of national park (15.5%). Results were significant at p = 0.05 level of significance with F118 = 17.66 and df = 573 (ANOVA).

Perceptions on the existing condition of different environmental attributes

Only environmental services can't ensure the sustainability of ecotourism plan in a protected area. It also requires some facilities like accommodation facilities, foods and beverages, security, communication facilities etc. Visitors' of Kaptai National Park are satisfied with the existing facilities. Most of the visitors (36%) were happy about existing facilities of the KNP. But some want more facilities (32%) and some want huge improvement of existing facilities (22%) in the park. They want more security and other facilities like a mini-zoo, more accommodation and sanitation facilities, etc. (Fig. 3).

<table>
<thead>
<tr>
<th>Environmental attributes of KNP</th>
<th>Mean±SD</th>
<th>N</th>
<th>% of total N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boat riding in Kaptai Lake</td>
<td>1.94±0.99</td>
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<td>85.59</td>
</tr>
<tr>
<td>Natural and green environment</td>
<td>1.69±1.05</td>
<td>102</td>
<td>86.44</td>
</tr>
<tr>
<td>Natural beauty of Rampahar-Sitaphar</td>
<td>1.92±1.07</td>
<td>100</td>
<td>84.75</td>
</tr>
<tr>
<td>Walking trail in park</td>
<td>1.12±1.01</td>
<td>89</td>
<td>75.42</td>
</tr>
<tr>
<td>Watch tower to enjoy landscape</td>
<td>1.31±1.05</td>
<td>93</td>
<td>78.81</td>
</tr>
<tr>
<td>Wildlife viewing</td>
<td>0.85±0.99</td>
<td>89</td>
<td>75.42</td>
</tr>
</tbody>
</table>

Table 4. Visitors satisfaction level during or after visiting the KNP

Reaction format value range, well satisfied, 3 to not satisfied, 0; ±SD indicates standard deviation.

Fig. 3. Observations of visitors on the existing condition of different environmental attributes in KNP.

Fig. 4. Existing problems identified by the visitors during visiting KNP.
Problems identified by the visitors

According to the visitors, the remarkable problems are: non-availability of drinking water, insufficient sanitation, non-availability of good food and lack of proper communication facilities, lack of sufficient security and guiding. Only about 4% visitors say that they don’t face any problem in the park during visiting time. Most of the tourists identified various problems such as tour guiding facility (22%). They also faced problem in food (19%) and drinking water supply facilities (18%) followed by sanitation (11%) and some other minor problems (Fig. 4). Besides, the respondents raised the issue of some problems they faced in the park’s garden of which non-availability of any signboard for plants’ identification was prominent. With this problem, the educational value of the garden to its viewers may be interrupted.

Motivations for visiting the park in future

The main objectives of KNP is to preserve the native, endangered and rare plants and animals and to establishing breeding centre, developed and preserve the habitats of wildlife’s as well to conserve the biodiversity in their natural state, with access for research, culture, education and creating opportunities for eco-tourism. Of the surveyed respondents, 87.28% were of the view that their visit experience at KNP was recreational and only 12.72% respondents stated it was not so. The respondents, to whom visit to this park appeared recreational, were asked specific question on what natural component or components attract them most to revisit the park in future. In response to it, the radar chart showed that most of the respondents will come for boating on Kaptai Lake (91%) followed by scenic beauty of Rampahar-Sitapahr (84%), vegetation diversity of KNP (76%) in near future (Fig. 5).

Visitor’s security and effect on ecotourism

A questionnaire investigation was done to know about the awareness of security status and its effect on ecotourism among the visitors and whether such information has any effect on their visiting decision. About (63%) had knowledge of security status before visit and about (42%) tourists are affected by the security status in their decision. Respondents were also asked whether the security status were more or less attractive to visit the park. Less than 8% thought it became less attractive, except them almost every respondent said that security status of the park is fair and this made the park more attractive to visit.

Protected area and sustainable ecotourism

An ecotourism plan in a protected area will be sustainable when it will be able to protect natural areas through the generation of revenues, provide full range of recreational oppor-

<table>
<thead>
<tr>
<th>Sustainable ecotourism elements that PA meets</th>
<th>Disagree</th>
<th>Agree</th>
<th>No comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ecotourism that supports and sustains local ecosystems</td>
<td>21 (17.8)</td>
<td>66 (55.93)</td>
<td>31 (26.27)</td>
</tr>
<tr>
<td>Ecotourism that encourages tourists to be concerned and protective of nature</td>
<td>19 (16.10)</td>
<td>71 (60.17)</td>
<td>28 (23.73)</td>
</tr>
<tr>
<td>Ecotourism that helps to reflect distinct characteristics of PA</td>
<td>38 (32.2)</td>
<td>41 (34.75)</td>
<td>40 (33.90)</td>
</tr>
<tr>
<td>Ecotourism that ensures social equity and community involvement in PA</td>
<td>34 (28.81)</td>
<td>43 (36.44)</td>
<td>39 (33.05)</td>
</tr>
<tr>
<td>Ecotourism which maintains the full range of recreational, educational and cultural opportunities within and across generations</td>
<td>28 (23.73)</td>
<td>61 (51.69)</td>
<td>29 (24.58)</td>
</tr>
</tbody>
</table>

Values in parentheses indicate the percentage.
opportunities to tourists, environmental education; involve the local people in its management and create their employment opportunities. A questionnaire survey was conducted on these aspects to gather the tourists view whether KNP possess the sustainable ecotourism elements. Table 5 showed that tourists agreed in part or completely with the five statements of sustainable ecotourism that KNP really possessed. A clear majority of respondents (60%) agreed with the statement that a national park encourages tourists to be concerned and protective of nature and increases the value for the tourists through ecotourism followed by 56% respondents thought that the study area support and sustains local ecosystems and encourages tourists to visit national park in future and 52% said that they had got full range of recreational, educational and cultural opportunities. However, in case of other two elements such as distinct characteristics’ of PA and local people involvement in PA tourists perceptions were not as like as other three elements of sustainable ecotourism. About 32% tourists disagreed that KNP reflects distinctive characteristics while 29% tourists thought that KNP fails to involve local people in ecotourism.

**Revenue of KNP from ecotourism**

The area has huge ecotourism potentiality, for this every year nearly more than 50,000 nature loving tourists come here to enjoy the natural beauty of green Sitapahar-Rampahar Hill Forest, Karnafuli River, boating and fishing in Kaptai Lake, wildlife, etc. This study reflects that Government gets revenue of an amount of around Tk. 100,000 in the 2008-09 and Tk. 79,000 in 2007-08 fiscal years from KNP. Presently the park authority charge an entrance fee of only Tk. 10 only per head and the visitors assessed the amount sufficient for raising fund for proper management. From economic point of view, the study area is major source of recreation for medium class people because protected area is an important place for recreation to the medium class in Bangladesh. Every year most visitors were gathered during the time of holidays of religious festivals reported by the park authorities. We also arranged an informal discussion with the park officials to cross-check the issues rose by visitors regarding problems of this park. The park officials confessed all those matters and focused some causal issues behind. According to them inadequate funding, low priority from the decision makers’ part, intermingling management authority and lack of trained and expertise personnel are the major problems of poor management of KNP.

**Discussion**

Present study findings revealed that visitor’s in the KNP are varied with age, sex, occupation and education. In ecotourism activities generally male visitors are participated higher than female (Ahmed and Rahman 1997) and youth groups are more interested in it (Ahmed 1993). In the present study it was found that the young energetic males are very much willing to visit the park. Ahmed (1993) also repeated that students are the major groups of ecotourism and Ahmed and Rahman (1997) showed that participation of outdoor recreation increase with increasing educational level which was also supported by the present study. In fact, majority number of tourists visits the park at least once annually with their friends or relatives to enjoy natural scenic beauty as this is a trend of Bangladesh people with friends or colleagues as a group found also by some other study conducted in Bangladesh (Nath and Alauddin 2006).

Several studies recommends that visits and stay to parks and views of natural scenery improve visitors moods, even help cognitive functioning, removal of mental fatigue, and stress reduction in human (Hull 1992; Forsyth 2003). Our study results revealed that visitors are mostly influenced by the attractiveness of the environmental attributes of the site not by its quantities. Although there are no so many environmental services or facilities to enjoy the existing services but they told that they were attracted by the existing so nice services and they felt satisfaction with the existing services and results of the study also proved it. Most of the visitors were attracted by the flourishing natural scenic beauty as well as boating on Kaptai Lake because by riding on boat they enjoy both boating and the natural scenery of Rampahar-Sitapahar since these two hills are on the both side of Kaptai Lake and Karnafuli River. They were very much satisfied with such services and make them bound to visit the park again. However, lack of security measures in the conservation areas was the most important issue in Bangladesh as visitors’ sometimes felled victim to mugging in remote and desolate corners of the area (Nath and Alauddin 2006). Present study reported that lack of sufficient security, guiding and facilities for the women and also
the backwardness of women in our society might have discouraged them to come frequently for recreation in this park. Okaka (2007) showed that the relatively lower number of visitors to some PAs of Uganda due to inadequate security condition which is supported by the present study.

Nearly every one of the local Bengali and ethnic communities (Marma, Chakma, Phankho, Tripura, Lasai, Tanchonga) in the study area has perceptions of tourism. The involvement of both local Bengali and ethnic communities in the tourism is currently insufficient. To the extent that they receive economic benefits, these benefits come from cultural show performances, selling of homemade clothing and providing eco-tour guide services. In order to enhance livelihood benefits, local Bengali and ethnic community’s involvement in this sector should be ensured. This will also provide future dividends in KNP management and biodiversity conservation. Wunder (2000) said that increased economic participation by local peoples is seen as a major characteristic of ecotourism and economic benefits from tourism development are most important to local peoples (Akis et al. 1996).

Many ecotourism studies have focused on employment opportunities (Davis et al. 1988; Sekhar 2003), revenues derived (Ko and Stewart 2002), and local people’s perceptions are often used as the main factor in ecotourism evaluation (Sekhar 2003; Spiteri and Nepal 2006). Currently, local people in the study area possess limited advantages in employment and tend to pursue simple jobs. Limited start-up capital and lack of skills are the main factors preventing local people from entering the tourism industry and competing with private companies. Therefore, it is up to administration of the study area to provide professional training and startup capital (such as low-interest loans) to help more local peoples and ethnic communities enter into the tourism industry and improve their competitiveness in securing employment. To providing information to community members, education and training in project activities may improve community members’ capabilities (Abdullah et al. 2000; Lane 2001). The visitors believe that the area will become more attractive if the area receives more focus on a sustainable development and security of the area can be increased then mass tourism is possible. It is also considered important to avoid further exploitation and to preserve the character and unique qualities of the area, both naturally and culturally.

Ecotourism has been suggested as a key to sustainable development of PAs throughout the world. The main objective of ecotourism in KNP is to amplify experiences of tourists by increasing encouraging activities such as long distance walking, camping, boating, wildlife observing, sight-seeing, swimming, cultural activities and visiting historical places thus visitors know about environmental attributes of protected area and become aware about PA conservation. A substantial amount of tourists thought that existing condition of KNP is good and possess the potentiality of sustainable ecotourism. Side by side effective management of the park also plays an important role to increase the number of tourists in the park as well as upgrading the status of the park. Besides, management by local people will help to gain sustainable management of the resources of the park reported also by the tourists. To focus these aspects mass-media can play vital role in eco-tourism development for local and foreign tourists in our country as mass-media is the world largest source of tourism information. A substantial amount of respondent perceived that designation of PA made them to be concerned and protective of nature and provide full range of recreational, cultural and educational opportunities. McCool (1985) also states that it is a common belief that designation of PAs inevitably results in rapid increase in recreational use. Moreover, several studies discuss the impacts of PAs in relation to recreational use and changes in tourist numbers (Loomis and John 1999; Hall and Piggot 2001; Weiler and Seidl 2004; Buckley 2004; Fredman et al. 2007).

Community participation is considered an important factor in maintaining the relationship between PAs and local communities (Mannigel 2008). The communities believe that the area will become more attractive if the area receives more focus on a sustainable development and security of the area can be increased then mass tourism is possible. 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 ultimately enhance local support for the conservation of natural resources. It is also considered important to avoid further exploitation and to preserve the character and unique qualities of the area, both naturally and culturally. Visitors of the study area also perceived that PA will significantly
improve and sustains local ecosystem and inclusion of local people in ecotourism management would significantly improve the value of environmental services to the visitors as they are the local residents and they have sound indigenous knowledge on the existing environmental resources. They are seen as a central part of tourism in PAs in order to maximize their sustainability and economic benefits, strengthen their relationships with the ecotourism industry, and thereby improve conservation efforts (Simmons 1994). However, there are often conflicts between the local community and biodiversity conservation in PA management (Salafsky and Wollenberg 2000). Thus, the local community selected as the main parameter in evaluation of tourism in PAs. Successful conservation schemes can be achieved only if effective incentives are offered to the local communities and their roles are clearly defined (Sawhney et al. 2007).

Conclusion

Most of the respondents in our survey have good perceptions of tourism and our study findings also proved that ecotourism bring changes on the people thoughts about PA and they are now very much conscious and concerned about PA conservation which was hypothesized at the initial stage of the study. But some problems are there in the park hindering visitors from enjoying the magnificence smoothly. Addressing the problems raised by visitors, should be eradicated through the implementation of effective measures from the part of policy authorities to make the park a safe, sanitized and merry open space. Based on this tourism, the socio-economic condition of the area will also be developed. For this, infrastructural development is a pre-requisite thing. Technical and institutional education and training related to ecotourism can also create alternative job opportunities to the people. It had been attempted through this study, to find out those parameters that attract the tourist most. Now it is necessary to develop a separate management and action plan for all those parameters by involving all beneficiaries and stakeholders to increase the number of tourists as well as to conserve the ecosystems of the park. There are also some other tourist spots but there is no or lack of coordination among the KNP and those spots. So, coordination between them could be a good option to develop the ecotourism. Ecotourism makes local people and tourists aware about the conservation of natural resources. They can understand the importance of natural resources. The result of this study did not reveal any negative attitude about tourism development that could hamper the resources of KNP but this scenery could change in future as tourism develops. For this further studies will necessary to be conducted to gather qualitative and quantitative information in terms of ecological, socio economic and community conservation levels on the performance of ecotourism in the study area. So, committed efforts are needed from both the public and private sectors for full development and utilization of the potentials of the Tourism industry in the KNP as well as whole Bangladesh.

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