

City Dwellers' Relief from Monotony Through Recreational Aesthetic View: A Study on Buriganga Eco-park, Dhaka, Bangladesh

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Abstract: Dhaka, the capital city of Bangladesh, with expanding new areas has been suffering from inadequate provision of recreation facilities. The city lacks miserably in providing recreational space and facilities to its city dwellers which is very important for mental and psychological fitness. The existing open space and park provisions vary widely between old and new Dhaka and are much below compared to the open space standard which should be maintained. In the older city areas there is too little space allotted for recreation. This is true also for many of the more newly developed areas. The areas are poorly provided with parks, recreation ground and other sports facilities. Buriganga Eco-park is the only eco-park in Dhaka city. It is located on the foreshore and eastern side of the river Buriganga in old Dhaka. Bangladesh Inland Transport Authority (BIWTA) has developed the land as an eco-park reclaiming from encroachment of land grabbers. The authority (BIWTA) has developed the land in an engineering way, where there is lack of proper land use and management planning. In this study, it is tried to find out what Management Planning is needed to make the Buriganga eco-park vibrant, effective and impressive with its aesthetic view to the city dwellers.

Keywords: Buriganga, Eco-park, Foreshore, BIWTA, Encroachment, Engineering Way, Management Planning, Aesthetic View, City Dwellers, SAARC, DECC, DOE, RRI, BPC, DMDP, BBS

1. Introduction

A city may be blessed with a large number of industries, business establishments, shopping facilities and so on. But it falls short of its highest possibilities if it is wanting in those qualities of living that represent a more fruitful and happy life for its people. "There is nothing in the city plan that may contribute more vitality to this richer life of the people than appropriate provision for recreation. There is nothing that deserves more earnest consideration Lohman [1]".

"Park is the base of any outdoor recreation. If we look at different civilized country like the USA, the UK, France, Germany then we can easily find that they have lots of park for their peoples' outdoor recreation. Indian sub-continent is not different from this. Park is one of the most important preconditions of urbanization and is the most important part of any city life. In fact, park is not only a place of recreation; it is a place to pass time in leisure. An

agglomeration of attraction encourages city inhabitants with an airy gesture.

Eco-park is nothing but a protected region of environmental and or cultural values. In the same way, it can be said that eco-parks are locations which receive protection, because, of their recognized natural, ecological and or cultural values. Eco-parks are essential for biodiversity conservation. They are the cornerstones of virtually all national and international conservation strategies. They are areas set aside to maintain functioning natural ecosystems, to act as refuges for species and to maintain ecological processes that cannot survive in most intensely managed landscapes and seascapes. Protected areas act as benchmarks against which we understand.

No study has yet been done regarding the management of parks and open spaces in the city of Dhaka. The only study

on urban recreation is done by Ally, which deals with recreation types and their socio-economic correlates and attempts to ascertain the recreational needs of the neighborhood residents in Dhaka city. Management and control of recreational facilities has not been given any consideration [2]. The present study therefore, intends to examine the problems and deficiencies of operation and maintenance of existing parks and open spaces in the city. This study also intends to examine the ways such problems and deficiencies can be removed or minimized.

Entwicklung and Stiefel told "People and Protected Areas" from all over the world to contribute to the further formulation, jointly with the local stakeholders, of priorities and approaches for an integrated management of the Quirimbas National Park [3]. The objective was to identify the main issues -problems and potentials- for an integrated management of the newly established Quirimbas National Park, looking at the institutional, the ecological and the socio-economic context.

Gilbert stated "Street Development Area has identified the area between Gilbert Street and Kings Park as being a strategic location for potential future commercial development, car parking and passive recreation. Pedestrian linkages and vehicle circulation within the Kings Park precinct study area [4]. The Latrobe Council has commissioned this development plan to consider the social, economic and environmental issues associated with the study area and provide recommendations for future.

2. Objectives of the Research

The research objectives are:

- a. Provide general scenarios of the eco-parks located in different places of Bangladesh.
- b. Identify potentials and drawbacks of the Buriganga eco-park.
- c. Make some recommendations and conclusions based on the potentials of the eco-park as an aesthetic view of recreational component to the city dwellers.

3. Scope of the Study

This report mainly confines the research inquiry within the limit of physical use of eco-parks and their social use. Considering the resource constrains, this study mainly focuses on responsiveness of Buriganga Eco-park of Dhaka city in respect of other eco-parks in Bangladesh. In doing so, a sample of 100 respondents from the park visitors have been selected to investigate the satisfaction level as eco-park user. During the survey, it is tried to take and incorporate the valuable opinions of experts of various institutions and organizations who are known as prominent in their respective places. In addition, it is tried to make a comparison of eco-parks in Bangladesh as well as South Asian perspective to give a standard recommendation making the eco-park to play as a vibrant eco-park with its aesthetic view and recreation value.

4. Concept and Context of Recreation in Bangladesh

"Recreation is an area of urban activity, not an easily defined homogenous entity. It rather consists of a diversity of activities undertaken at a wide range of locations. It has been suggested that is easier to define what is not: it is not work not 'personal and social' obligations such as sleeping & washing. However it is not alternative to work, but a complement, as it presupposes work. According to the web "recreation is diversion: an activity that diverts or amuses or stimulates; and refreshment: activity that refreshes and recreates; activity that renews one's health and spirits by enjoyment and relaxation; time for rest and refreshment by the pool". Widely different meanings are attributed to the word "recreation" and are applied to great variety of activities. "Recreation" is really an abbreviation for "recreation facilities, recreational programs or both." And recreation facility means a place and equipped for the conduct of sports, leisure time and other customary and usual recreation activities Burton [5]."

Recreation is a very necessary and an inseparable part of a society. It plays very important role to both individual life and the society. It contributes to the physical well being of the individual and develops individual qualities, strongly influencing the growth of social attitudes. With the variation of interests of a single individual throughout his lifetime the form of recreation also varies widely. Again, the form of recreation varies according to the differences among people. The ways and means of recreation during last few decades have rapidly changed/ affected with the changes that have taken place in social, economical and political life of the people.

Recreation can take place in public parks, other open spaces or any number of public and private places, including fully developed and indoor locations. Recreation can be active that includes activities such as games, sports and movies (which are almost provided by private sector) or passing such as park, eco-park, forest, river cruise and travelling as well as indoor public facilities such as community centers.

Alam referred "Padma river bank have a live environment than the other river banks in Bangladesh. This is why, it has to be created and developed some new functions, reorganized the total existing site situation which will play an important role in the total Rajshahi city population, developed economic condition and grown up as a tourist spot [6]."

Biswas stated "the communities of Dhaka city are deprived of recreational facilities. The ratio of recreation space to sites is far below the standards followed in different countries of the world. Children do not find any safe and nice playground in close proximity from their residences. The essence of community interaction in public recreation sites is disappearing from the civic life of this cosmopolitan city. She added that, lack of access, a lot of time is wasted doing nothing [7]."

Buksh referred "through a normative approach, attempts to

investigate the open space network in urban Dhaka in consideration of population density, service area, accessibility and space standard. He added, spaces in Dhaka city is not uniformly dispersed rather those are clustered approaching random over the space [8].

Chowdhury referred “Green space, especially in the form of parks and nature preserves, is an integral part of every city. By offering opportunities for recreation, reflection and relaxation parks improve community health and cool city air through transpiration and evaporation [9].”

Abedin stated “due to providing some special facilities in the eco-park like archeological heritage, freedom fighting related objects and environmental friendly components weighted the attraction of the eco-park [10].”

In Arunima Ecopark it is referred that, “incorporate sports facilities like golf club, badminton court, basketball court, tennis court, ludu, fishing, meeting conference room, in addition well equipped security force make eco-park vibrant [11].”

In Gaibandha Pauro Park it is observed that, “exceptional component like water fountain in the midst of pond, pond ghat with stairs, gallery, canteen, sitting bench, walk way and sculpture of different types of animal attract the people most [12].”

5. Recreation Facilities

Recreational activities refer to a place designed and equipped for the conduct of sports, leisure time activities and other customary and usual recreational activities. Recreation facility may be commercial- most activities of recreation are carried on playground, park, pond, play lot, recreation buildings, indoor centre, swimming pool, etc. The playground, park and recreation building comprised of a great variety of activities. Experience has demonstrated that, for these facilities, it is essential to have a well balanced recreation system along with space, location, development standard and management.

5.1. Importance of Recreation

Recreation is a great aid in getting acquainted and providing opportunity for sociability. It reduces tension and brings relief from boredom and fatigue. Recreation can often exert social controls and create group solidarity and identity.

Recreation provides three functions: (1) relaxation, (2) entertainment, (3) a means for personal and social development. No particular recreation pursuit will necessarily perform all of these three functions, but all pursuits will usually satisfy at least one of them and many will encompass more than one. Thus, a visit to the cinema may give a person relaxation, or it may provide him with entertainment, or it may produce a combination of both of these elements. One man's recreation may be another man's work. At the same time individual recreation at one time or under certain conditions might not give satisfaction, which has a varying appeal as the age, interest, physical ability, intellectual capacity and desire of the individual changes. In

some form, recreation consists of active participation, on others, of quiet relaxation, listening, or watching. Recreation can be organized or unorganized, and can be enjoyed alone or in a group [13].

However, the importance of recreation in human life can be categorized into three perspectives: (1) psychological, (2) physical and (3) social. How recreation can influence human in those areas is given below:

a) Psychological benefits

The major benefit behind recreation is the desire of the individual to attain happiness. The fundamental aim of recreation is to assure joyful experience and happiness through leisurely activity. These satisfactions secure recognition, response, adventure in new experiences, creativeness are basic drives in individuals.

b) Physical benefits

Recreation means to do some activities to freshen minds, to strengthen physical condition. Walking at morning is one kind of recreation that not only makes mind fresh but also it fresh air is potential for physical goodness. Since technology is powerful tool in modern life and affects individual and group culture. Opportunities must be provided for balanced growth of the organism. These can be secured in modern society through appropriate activities during leisure time. Recreation activities can increase the productivity of almost any group when properly chosen, timed, and led.

c) Social benefits

The opportunities which recreation opens to people for expressing their social interests are one of its major benefits. Social contract in recreation is likely to be an enjoyable experience, because participation is completely voluntary. Recreation affords a common ground where differences may be forgotten in the joyous a participation or achievement. Recreation activities have great potential for developing security in the group, group recognition, and new experiences.

Nahrin, Quamruzzaman and Khan referre “increasing population, unplanned development and congestion compel inhabitants of Dhaka city to inhale various hazardous particles with every single breathe. The dwellers are slow poisoned by growing air pollution. Children do not find any safe and nice park or playground in close proximity from their residents. The community bond is gradually disappearing from the civic life [14].”

Recreation has a great influence on children. Participation in recreation activities leads to well-balanced, healthy and physically-active children.

5.2. Context of Recreation for Planning in Dhaka City

Recreation, parks and open space planning takes place at several jurisdictional levels, within numerous agencies at local level, in the private sector as well as public-private partnership. Agencies responsible for recreation planning include development authority, City Corporation, Metropolitan, or any private organization. Such planning is also typically done by local, regional and state planning agencies, often as one element of comprehensive plan.

For example, each master plan for a city contains a chapter contributing site standard, site location for location implementation. Master Plan for Dhaka City has overviewed the existing situation of open space in Dhaka City. It has proposed the distribution of open space which will be used for Metropolitan and Community Level Park. According to Dhaka

Metropolitan Development Plan (DMDP) the total identified open space including water bodies is about less than 3%. The present rate of open space is only .005 acre per 1000 person, which is miserably low compared with open space standard in any country. The following table shows the space standard in several times proposed by different planning agencies.

5.3. Open Space Standard Proposed by Different Planning Agencies in Bangladesh

Table 1. Open space standard in Bangladesh.

Dhaka Metropolitan Development Plan (DMDP), 1995	Khulna City Master Plan, 2001	Rajshahi City Master Plan	Chittagong City Master Plan
0.16 acres/ 1000 population	Minimum 2 acres/ 1000 population		

Source: DMDP, 1995.

6. Concept and Context of Eco-park

Eco-park is a recreational park established in any natural habitat that does not disturb or affect biodiversity or the community of that area. The concept of eco-park is of recent origin. The objective of establishment of an eco-park is for the recreation of visiting people from home and abroad, as well as creating a centre for the dissemination of knowledge to people of all age groups about the habits and habitats of the plant and animal populations living there and at the same time creating awareness about the need of conservation of biodiversity. Such eco-parks have been established in different countries in recent years to attract people for tourism, education and research.

6.1. What Is Eco-park

An ecological park is a place that is ecologically restored and preserved for the purposes of scientific observation and study and also to provide an easily accessible place for visitors to observe plants, animals and insects living in their natural environment.

An ecological park is a place where wildlife habitat is introduced so that it is able to be self-maintaining according to ecological principles (e.g. diversity of species, ecological soundness, sustainability etc.) and into which appropriate wildlife is introduced that is able to be maintained with minimal energy supply. Higher priority is given to the ecological environment than in other parks.

6.2. Features of an Eco-park

- 1) Biological Diversity: This refers to the diversity the genetic factors, species and biotopes and so on. Biological diversity varies proportionally with ecological stability.
- 2) Ecological Soundness: This can be secured by means of maintenance of independent procreativity within an ecosystem and allows viable ongoing exploitation of biological resources.
- 3) Sustainability: Ecological perpetuity can be maintained by means of continuous preservation and reproduction of biological resources.

- 4) Minimal Energy Supply: Artificial energy supply can be minimized as a result of a circulatory system of nature forming.

6.3. Origin of Eco-park

With the rise of environmental issues due to the expansion and development of cities and the consequent change in value systems regarding man-made environments, recognition of the importance of ecology has increased, along with the need to reduce the maintenance expenses of conventional parks. For these reasons, the ecological park has emerged as a new type of park.

Ecological parks originated with Bloemendaalse Bos Park, which was created in Haarlem, Netherlands in 1952 by Jac, P. Thijssse, a teacher, with the educational purpose of teaching students to understand nature.

In order to provide citizens easy access to nature, William Curtis Ecological Park was created in England in 1977, however this closed in 1985. The foundation of Ecological Parks has since been established and the concept of ecological park has been introduced into creating parks with England as the central place, followed by Germany, Canada etc.

The term "Ecological Park" was first used in the book "Nature Garden (Der Natur Garten)" written by Schwarz. The general concept was introduced in the book "Switch off nature-switch on nature" written by Le Roy.

6.4. Eco-parks and Its Role in Recreational Service

As urban population has rapidly increased through civilization and industrialization, cities have been enlarged, nature has been impaired and human relations have been damaged. This is why people have lost the opportunity to come into contact with nature. Environmental problems such as air and water pollution have resulted in conjunction with a gradual decrease in natural surroundings.

Orthodox park creation thus far has focused primarily on creating an artificial environment, application of conventional methods, unconditional preference for a certain model of design, blind following of engineering technologies and an excessive emphasis on human convenience. As a

result, the ecological productivity of nature in parks has been impaired.

Ecological destruction has caused the landscape to be devastated. For this reason, ecological parks, places serving to reintroduce beautiful birds and insects into the devastated landscape are needed. There is need for ecological parks as places where sound ecological values can be instilled and established through the observation and study of nature. It has a strong appeal to children and youth, delinquency is less likely to flourish in cities where opportunities for recreation are enough and attractive than in cities or neighborhoods where adequate facilities are lacking. Recreation can be uplifting and constructive, contributing to growth and development of the individual, the family, the community and the nation.

Eco-park itself is a great source of recreation. It has a great influence especially on children. This is because, participation in recreation activities leads to well-balanced, healthy and physically-active children.

7. Methodology

7.1. General

Methodology is the way to systematically solve the research problem. In order to maintain the objectives of the study, the methodological activities and related information undertaken to complete the research work effectively through qualitative and quantitative analysis.

7.2. Conceptualization

To conduct this research work first of all, a clear sense of the main concepts of “City dwellers”, “Aesthetic view” and “Eco-park” has been developed. The concepts are developed about “Recreation and its types” then “Eco-park and its role in recreation etc.

After developing these concepts, how the research has organized by giving priority of requirements has developed. That means, what would be the procedure of work. All of these concepts have been achieved from secondary materials like manifolds, relevant books, journals, reports, dissertation papers websites etc.

8. Data Collection

After the selection of variables to meet the objectives data will be collected. According to the variables two types of data are required to fulfill the study. These are -

- a) Primary data.
- b) Secondary data.

8.1. Primary Data Collection

Through primary data collection, the real information can best be gathered with the help of field survey. In this study primary data was collected from the following surveys.

- (1) Reconnaissance survey.
- (2) Questionnaire survey.

8.2. Secondary Data Collection

To gain knowledge about eco-park, such as basic characteristics of eco-park, design consideration of eco-park for implementation and other important information about Eco-park are collected through searching internet. Moreover, before propose a potential and vibrant eco-park, the existing condition of that area also have to study. The demographic, socio-economic characteristics, road communication facility, environmental condition and other related information about the eco-park are collected from the BBS community series.

- a) Literature and demographic review;
- b) Issues and demand analysis;
- c) Identification of opportunities;
- d) Development of recommendations and preparation of report;
- e) Comparison to other eco-parks in terms of international standard.

The process engaged the community and key stakeholders through a range of consultative methods including meetings, interviews, public information session etc.

The following stakeholders have been engaged as part of this process:

- (1) Assistant Commissioner (AC) land office of Dhaka,
- (2) Bangladesh Bureau of Statistics (BBS),
- (3) Dhaka South City Corporation (DSCC),
- (4) Rajdhani Unnayan Katiripakhya (RAJUK),
- (5) Bangladesh Inland Water Transport Authority (BIWTA),
- (6) Department of Environment (DOE),
- (7) River Research Institute (RRI),
- (8) Bangladesh Parjatan Corporation (BPC),

Secondary data collection also includes necessary map collection, demographic information collection from the secondary sources, and detailed information about the land use from the relevant authorities.

8.3. Field Survey

Planning is a strategic procedure which should be done from field level for precise data collection to depict a unique picture of the existing situation, so, a field survey conducted after a reconnaissance survey. For particular data collection, a mandatory field survey has been conducted with mouza and layout map of the site and questionnaire prepared on some selected parameter. However, this field survey has been organized into two ways targeting different purpose. They are:

- (a) Physical survey: For the purpose of selecting site for recreation, the existing land use pattern of the area has been required. Physical survey has been conducted through existing land use/layout map.
- (b) Visitor survey: The survey was conducted to know the probability of people's acceptance and use the eco-park in the selected area. These factors would help to analyze the potentiality of Buriganga Eco-park as a potential eco-park. The survey was operated on the basis of three procedures- map collection, parameter selection and questionnaire preparation.

objective. To prepare a profile of visitors including their characteristics, recreation interests, overt behavioral patterns within the study area, required relevant parameters are listed:

Relative parameters are selected for the socio-economic survey of the visitors to collect appropriate data to fulfill the

Table 2. Parameter selection.

Dimensions	Parameter	Measuring method/Data
Planning	Construction of eco-park support the guideline of Master Plan	Secondary materials
	Does the planning consider environmental and social conditions of the area	Primary and Secondary
	Does the community playing a significant role in the management process of the eco-park	Primary and Secondary
Design	Does the planning eco-park followed requirements standards	Primary and Secondary
	Does the construction followed the proper planning	Primary
Management	Does the management is efficient to performthe duties	Primary
Visitors responses	Demographics and socioeconomic status of visitors	Primary
	Satisfied with present services	Primary
	Expectation of the visitors	Primary
	Satisfied in the park with the name of eco-parks	Primary

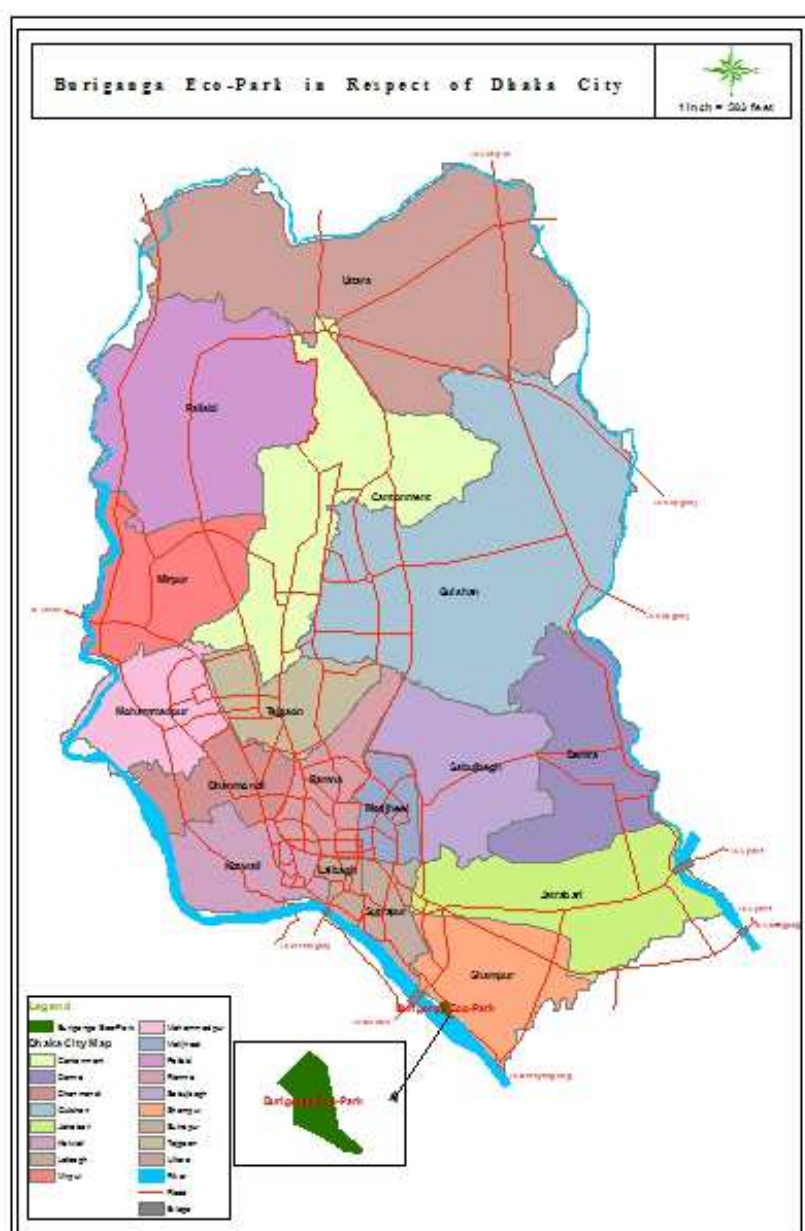


Figure 1. Buriganga Eco park in respect of Dhaka city.

8.5. Data Assembling, Processing and Interpretation

All the collected data categorized, grouped and interpreted aiming at objectives of the study. All collected data classified in tabular and graphical form using standard statistical tools through some of the computer program like MS Word, MS Excel, Arc GIS to be interpreted and analyzed exactly to illustrate field oriented information, that is needed to get the exact picture of existing condition and people's expectation for significant recreation from this eco- park. Necessary correction and calculation are done carefully.

8.6. Analysis and Findings

From the interpreted data, findings and analysis have been made to satisfy the three specific objectives of the study and to reach a fruitful result. These have been represented in textual, tabular and graphical form.

The collected data has been analyzed to develop some expected findings to achieve the objectives. The expected findings are:

- (1) A list of acceptable preferences of recreation facilities of visitors at the site.
- (2) Formation of some measures for development of the eco-park.

This stair of the study has helped to take proper steps to fulfill the objective.

8.7. Preparation of Draft Report

After completing the analysis phase, a draft report has been prepared containing all the study findings.

9. Profile of the Study Area

9.1. Background

Buriganga Eco-park is situated in Shyampur which is one of the metro Thana of Dhaka City Corporation. The name of the eco-park has been derived from the river Buriganga.

9.2. Area and Location of Buriganga Eco-park

Buriganga Eco-park is situated at the north-east part of Buriganga River and south-east of Dhaka city. The eco-park is bounded by Buriganga River to the south-west.

9.3. Administrative Framework

Shyampur is one of the metro Thana of Dhaka city. The Thana occupies an area of 10.17 sq. km. It is located between 23°40' and 23°42' north latitudes and between 90°25' and 90°28' east longitudes. Shyampur Thana is bounded on the north by Demra Thana, on the east by Narayangang Sadar Upazilla, on the south by Buriganga River and on the west by Sutpur Thana.

9.4. Potentials and Drawbacks of Buriganga Eco-park

Eco-park is exploited as an amusement park without

hampering its natural environment so that the bio-diversity remains unaffected there. Generally a particular area is demarcated and brought under intensive management for this purpose. Sometimes selected areas having special natural features are selected as eco-parks. Flora of the concerned area gets preference for such consideration. However protection and preservation of both flora and fauna get top priority. Beauty offered by the nature is opened to the visitors. Moreover, efforts to attract and entertain the visitors are also visible in the eco-parks. And of course, in Buriganga eco-park is playing an impressive contribution to the visitors for pleasures.

Bangladesh Inland Water Transport Authority (BIWTA) has initiated move to save rivers from encroachment permanently as it has constructed an eco- park on the bank of the river Buriganga in the capital. An official said BIWTA, under the Ministry of Shipping (MoS) has completed the first phase work of the Buriganga Eco Park on seven acres at a cost of Taka 14.7 million.

The construction work of the park was done as part of BIWTA's ongoing project on construction of port facilities and prevents unauthorized encroachment of the Burigangariver and its foreshore land. The first phase construction work of the park started on August 1, 2011 and completed on June 30, 2012. There will be a 'boat museum' inside the park that will reflect years old rich heritage of the country.

9.5. Response from Respondents

9.5.1. Number of Tourists Visiting the Park

International tourist arrivals in 2011 increased with a growth of 6.6% as compared to 2010. Our tourist season is in winter i.e. October to March when there is an extreme cold in Europe and America and the tourist spots are not favorable for visiting. We are also in a favorable position from lengthy tourism season here. Our tourism industry has an extra advantage in terms of location too. Table 3: states that tourists were significantly varied each year. In summer tourists numbers were varied significantly than in winter. Actually, winter (November to February) is the main tourist season in Bangladesh. Rainy season is very unusual season for tourist. In summer (March to June), environment is flexible. Therefore, tourist fluctuation is different.

Table 3. Total number of tourists visiting in different seasons.

Year	Winter	Summer	Rainy	Total
2009	1,03,978	11590	20902	1,36,470
2010	3,31,101	67300	50900	4,49,301
2011	4,28,200	71100	60903	5,60
Total	8,63,279	1,49,990	1,32,705	
Yearly average	2,87,760	49997	44235	
Monthly average	57552	24998	22118	
Daily average	1918	833	737	

Source: Author's compilation, 2014.

9.5.2. Age-class Distribution of Tourist in Park area

Table 4, states that young visitors (≤ 30 years) got three

times higher (75%) interest in tourism than aged person. Young people's are always very enthusiastic and like to take endeavor. Therefore, their participation is normally high in tourism. Surprisingly 25% of the visitors were over 40 years of old category. It represents that park provides mental amusement for all ages.

Table 4. Age-class distribution of tourists.

	Under 18	18+ to 30	30-45	45+
Male	15	54	12	10
Female	12	58	15	11
Total	27	112	27	21
	14.44%	59.89%	14.44%	11.23%

Source: Field Survey, 2014

9.5.3. Income Level of Visitors

The study revealed that maximum visitors (60%) come

from medium family followed by low-income family (17.50%) and rich family (22.50%). actually 77.50 percent visitors come from lower and middle class family (Table 3). As it is government owned, forest department operated protected area, entrance fees, other fees were very cheap in relation to other private amusement place. Therefore less income visitors got their interest. Sultana (2001) reported it as a common phenomenon in all over government owned and run Eco-park, National park, Zoo etc.

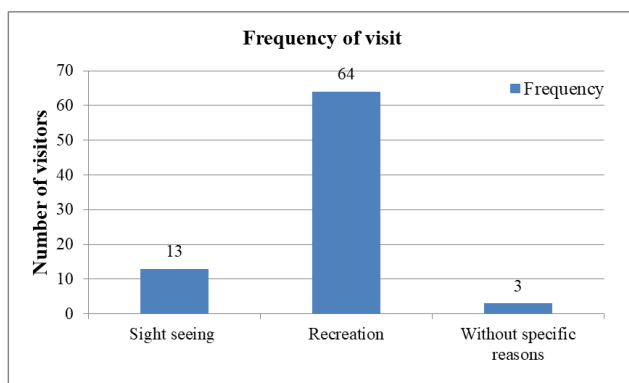
Table 5. Income level of visitors.

Category	Visitors percentages
Low Income family (Less than 5000)	17.50%
Middle income family (5001-15000)	60.00%
Rich Family (15000+)	22.50%
Total	100.00%

Table 6. Comparative analysis of different eco-parks in Bangladesh.

Sl No.	Name of the eco-park	Authority	Provided recreation facilities	Number of visitors (per year)	Entry fees (Taka per person)	Profitable/non profitable
1	Sitakunda Eco-park	DoF	a huge variety of valuable and rare plant species of indigenous and exotic origin and wild fauna	500000	5/-	Non profitable
2	Madhutila Eco-Park	DoF	Flora and fauna	150000	5/-	
3	Madhab-kunda Eco-park	DoF	waterfall and surrounding biodiversity	100000	5/-	
4	Banshkhali Eco-park	DoF	Flora and fauna	300000	5/-	
5	Kuakata Eco-park	DoF	Aesthetic river view	400000	5/-	
6	Tilagarh Eco-park	DoF	Flora and fauna	120000	5/-	
7	Barshijora Eco-park	DoF	Flora and fauna	80000	5/-	
8	Jamuna Eco-park	DoF	Aesthetic river view	100000	5/-	
9	Pirojpur Riverview Eco-park	DoF	Aesthetic river view	60000	5/-	
10	Buriganga eco-park	BIWTA	Aesthetic river view	50000	5/-	
11	Madhupur eco-park	DoF	Modhupur park is very rich in wild fauna like elephant, buffalo, tiger, leopard, peafowl	200000	3/-	
12	Lawachara national park	DoF	Wild flora and fauna, Wildlife Training Center,	500000	5/-	

Source: Department of Forest (DoF), Dhaka: 2014.



Source: Field Survey, 2014

Figure 2. Frequency of visitors in Buriganga eco-park.

9.5.4. Frequency of Visit in the Buriganga Eco-park

Ecotourism is a new concept in Bangladesh. Moreover organized eco-tourist places are few in number. From the study it was found that out of 80 visitors, 74% visited the study area

for the first time while 26% visited the area for the second time or more. Therefore, it can be said that as an ecotourism potential the Buriganga eco-park is now in exploring stage. It was also explored that different visitors visited for different purposes.

Out of 80 visitors in the study area 13 came for sightseeing, 64 came for recreation and just 3 without specific reasons (Figure 2).

9.5.5. Duration of Stay by the Tourists in the Eco-park

This study indicated that most of the tourists (78%) stay at the safari park for 2 hours followed by 5 hours (Couple) and 2 hours (educational group). Therefore the average stay by the tourists at the park is 3.3 hours. The composition of the tourists indicated that group of friends formed the major portion (44%) of the total tourists visiting the Park followed by the family group from different places (39%). Study showed that students from different institutions were (6%) followed by couple group (6%).

Number of individual tourist was found only 5% of the total tourists.

Table 7. Duration of stay by the tourists.

Visitors category	Duration of stay in hours
Educational	2
Individual	3
Friend group	3
Family group	3.5
Couple	5
Others	3.5
Average Hours	3.33

Source: Field Survey, 2014.

9.5.6. Level of Satisfaction by the Visitors

Table 8 depicts the satisfaction level of the visitors. Though no tourists were satisfied and only 1% is moderately satisfied, 53% poorly satisfied and 30% were completely unsatisfied. Ali sketched the same scenario of visitor satisfaction level at Eco-park. Actually, these tourists were not satisfied due to over expectation [15]".

Table 8. Level of satisfaction by the visitors in the study area.

Status	Percentage
Highly Satisfied	0%
Moderately Satisfied	1%
Satisfied	16%
Poorly Satisfied	53%
Not Satisfied	30%

Source: Field Survey, 2014.

9.5.7. Problems Identified by Visitors/Tourists

Though the recreational activities were not hampered, the interviewed visitors identified some problem for the better management of the park in present or future. Sound pollution (26%) got the top most priority followed by bench shortage (25%), toilet limitation (18%), parking (17%) and accommodation (14%). actually during the research work, vehicles were allowed in the park. so there was some sound pollution. Demands of the visitors were so high that limited resources couldn't fulfil the desire.

(i). Drawbacks in Buriganga Eco-park

Tourism is now a fastest growing industry in the world. The ever increasing growth of this industry and its market has increased the competition among the tourists importing countries. As a result, the success of any destination country depends on how well it can initiate and adopt the competitive marketing strategy over its competitors. The destination country needs to take the effective marketing measures so that they can gain the positive result through attracting more tourists to its destination.

Bangladesh is trying to attract more tourists to its destination through different measures. But the country lacks far behind to conduct the appropriate and sufficient measures regarding the marketing measures. The position of Bangladesh tourism in world context is very negligible eventhe country's position is at the bottom line in the South Asian region. Among the seven countries of SAARC in this region, Bangladesh holds the 6th position just above the position of Bhutan. One of the reasons of not succeeding Bangladesh tourism is ineffective marketing plans undertaken for the sector. So, it is essential for the policy

makers of the concern industry to consider the following issues very carefully and on the priority basis for the expected development of the industry. The research site, Buriganga eco-park is not an exceptional one with the increasing demand of the visitors but the problems associated with the visitors satisfaction depends on multi-dimensional issues.

**Figure 3.** Layout plan of Buriganga Eco-park.

In the Buriganga eco-park there is only two security guards who are trying to protect the whole areas. But most of the people also not satisfied with this small numbers of guards and with their services also. In the same time Bangladesh, whose image abroad tends to revolve round its being one of the poorest countries in the world and prone to natural calamities like flood and cyclone, is not an obvious tourist destination.

(ii). Underdeveloped Accommodation and Other Facilities

Accommodation is one of the most significant factors to have contributed to the development of tourism and the absence of accommodation in the study area which may put off the tourists from travelling to enjoy the attractions. Standard hotel accommodation and transport system besides the eco-park is not adequate for attracting the local tourists. Hotels' infrastructure and other services are still underdeveloped in this area.

(iii). Lack of Infrastructure and Authority Support

With poor infrastructure, little marketing sense and direction, and a national carrier too busy serving the labor traffic, tourism potentials of this site is far remained unexploited. Still now the connected roads are damaged and the mode of transport is not very good.

(iv). Ineffective Marketing Strategies and Poor Promotional Activities

Promotional activities undertaken by the authority is not effective and is limited to traditional activities like distributing brochures, hand book, advertising in national news papers, local TV channels etc. Both the existing literature and the data collected show that the promotional measures taken by authority tourism are not effective. The existing literature shows that the promotional activities undertaken by this sector is very traditional in form and are limited to folders, posters, accommodation guide etc. and again it is not well distributed and publicized.

Effectiveness is important rather than how much the promoter has spent for this purpose or how many times he has advertised or even which media he has used. The ultimate goal is to reach the advertiser's message to the potential

tourists and to influence them positively to visit the destination of the advertiser. The following table shows the

effectiveness of various forms of promotional measures of Bangladesh tourism industry:

Table 9. Promotional measures of Bangladesh tourism industry.

Form of Promotion	Don't Know Frequency (%)	Highly Effective (%) (5)	Quite Effective (%) (4)	Fairly Effective (%) (3)	Quite Ineffective (%) (2)	Highly Ineffective (%) (1)	Mean score
Advertisement	86 (85.14)	00 (00)	1 (0.99)	10 (9.90)	2 (1.98)	2 (1.98)	2.67
Publicity	81 (80.19)	00 (00)	5 (4.95)	9 (8.91)	5 (4.95)	1 (0.99)	2.90
Information Materials (Brochures, Souvenirs, Handbooks.)	48 (47.52)	4 (3.96)	14 (13.86)	18 (17.82)	11 (10.89)	6 (5.94)	2.98
Posters and View Cards	74 (73.26)	2 (1.98)	5 (4.95)	8 (7.92)	10 (9.90)	2 (1.98)	2.81
Cable TV Highlights	86 (85.14)	2 (1.98)	2 (1.98)	4 (3.96)	43.96 ()	3 (2.97)	2.73
Internet	93 (92.07)	00 (00)	2 (1.98)	5 (4.95)	1 (0.99)	00 (00)	3.13
Word of Mouth (WOM)	53 (52.47)	17 (16.83)	18 (17.82)	12 (11.88)	1 (0.99)	00 (00)	4.06

Source: Field Study, 2014.

It is found from the above table that only word of mouth is quite effective with a mean score of 4.06. Tourists rely more on personal source of information and, hence, personal selling will be the most effective promotional tool in tourism marketing especially in the research site. The mean score of Internet is 3.13 and motivation by foreign tour operators is 3.72 which indicate that these two forms of promotional measures are fairly effective. It is also mentioned that the overall mean score of effectiveness of all the promotional forms accounted to 3.10 with a standard deviation of 0.53 which is slightly higher than the mid-value of the scale.

(v). Insufficient Fund and Authority Support

Most of the private tour operators started their activities recently. As most of the tour operators are new in this area of marketing, they lack the experience and capital to run the business as most of them expressed their sufferings due to lack of fund for conducting the necessary promotional activities for the marketing of tourism services.

(vi). Unavailability of Updated Information

Both the local and potential tourists face the problem of easy access to information related to Buriganga eco-tourism and its facilities. Though BIWTA uses its web page, but it is not capable to highlight the park site tourism attractions and the necessary related information properly.

9.5.8. Potentials of Buriganga Eco-park

Provision of Eco-park in an area needed some sorts of individual characteristics and prerequisites of that area which will help to making that area as Eco-park successfully. Moreover, every site has some potentialities and opportunities. Buriganga Eco-park of Shyampur Thana of Dhaka city has some potential as eco-park in terms of following prerequisites:

(i). Necessity of Eco-park at Shyampur, Dhaka

Shyampur Thana of Dhaka city is enriched in natural aesthetic beauty of Buriganga River as well as Bangladesh-

China Friendship Bridge. To protect the Buriganga from environmental degradation, Buriganga Eco-park can be a good solution. Not only that, there has not any eco-park in or surrounding Dhaka city for amusement. So, the necessity of an Eco-park has an enormous importance in respect of different aspects.

(ii). Prevent from Encroachment of the River Buriganga

Population of Bangladesh is growing in alarming rate. For accommodation, business and industrial purpose people always try to encroachment the river Buriganga, which hampers the natural flow of the river. Thus, common people are depriving from enjoying the scenic beauty of the river Buriganga.

(iii). Restrict Growth of Unplanned Industries

As Buriganga is the lifeline of Dhaka city, so it is an attractive place for the industrialists. Already most of the river bank became industrialized with different kinds and types of industries. These industries are hampering the Buriganga River in various ways. So, it is the time to restrict the growth of unplanned industries to save the river Buriganga.

(iv). Opportunity to Enjoy the Aesthetic View Buriganga River

The citizens of Dhaka city have a little opportunity to enjoy the natural beauty of the river Buriganga. All the banks of the river is encroached by grabbers. Buriganga Eco-park may be a blessing to city dwellers to enjoy the natural beauty of the river Buriganga.

(v). Get Pollution Free Buriganga River

Due to establishing the Buriganga Eco-park Buriganga may be pollution free from all ill doings. Thus, it is expected that once Buriganga may get its real shape and flow, which is a great expectation for city dwellers.

(vi). Protection of River Water from Industrial Affluent

Buriganga Eco-park may be an issue to protect the river water from bank surrounding industrial affluent. Thus, once Buriganga may get its real life with fresh water and air.

(vii). *Advantages for Geographical Location of Eco-park*

Buriganga Eco-park is merely unknown tourist place for maximum people of other districts. It has outstanding natural beauty and pleasant environment for recreation. This study was based on semi-structured questionnaire survey and informal discussion. Maximum tourist visit this place for pass their leisure period with friends & family. Main attraction of this place is its natural beauty of Burigangariver and green environment. This eco-park is much potential for the development of socio-economic condition of surrounding people. About 12.5% people of this area are totally depending on this park, and 2/3 people are moderately affected by the park for their income generation. After establishment of this park, percentage of unemployed people decrease from 21% to 13%, percentage of poor people decrease from 46% to 34% and percentage of education increase from 17% to 21.5% by three years. Park authority faces some problem to manage the park. Communication, security, manpower are the main problem of this park.

9.5.9. *Design Specification*

(i). *Design Consideration*

To make the Buriganga Eco-park sustainable, some considerations have to take into account to provide a sustainable environment. The considerations are as follows:

- (1) Every particular area has some homogeneous bio-diversity which is exclusive for that area. It is important not to alter the existing bio diversity.
- (2) When new vegetation as well as plantation scheme would be implemented then it should be compatible with the existing plants, bio-diversity, soil characteristics, atmosphere and the overall environment. So, intensive research work should be properly initiated on this regard.
- (3) New design and construction should not obstruct the usual flow of the river. It should be noted that the river should not be contaminated with hazardous material due to development process. That's why no large scale construction and environmentally unfriendly materials are discouraged and the land of the eco-park should be maintained and utilized in this regard.
- (4) Proposed infrastructure and development should be compatible with the existing environment. The scale of this development should be controlled so that it does not create hindrance to the overall environment.
- (5) Commercial exploitation in the proposed area must be strictly prohibited. Any profit generation activity and unfair is not encouraged as it will create serious threat to the environment and the local inhabitant.
- (6) There would be provision of tourism, but it should be managed in a planned way. So that it can bear harmony with the overall condition.

Table 10. Benefits ranked by respondents in order of importance.

Facilities/services	Responses (%)
Basic services	76
Protection of natural environment	59
Civic identity and pride	52
Develops strong communities	46
Individual growth and development	46
Avoidance of costly damage due to mismanagement of the ecological system	46
Prevents social problems	42
Reduces health problems and costs	42
Integrates disabled, disadvantaged and socially alienated	42
Job creation	36
Percent of population who might use	36
Assists tourist industry	30
Prepares individual to cooperate with others	30
Opportunities for underemployed	24
Stimulates leisure retail industry	18

Source: Field Survey, 2014.

(ii). *Ranking of Facilities/Services Offered by Buriganga Eco-park*

Different utility facilities as well as social facilities should be near at hand to effective the Eco-park. The people who would visit certainly require different facilities according to their need. A ranking was developed considering the different utility and social service.

(iii). *Proposed Recreational Facilities to Be Set up*

The Eco-park would be equipped with some recreational facilities which would give refreshment to the city dwellers. But these facilities would bear harmony with the natural environment of the park.

Boating and Fishing: There would be provision of Boating and Fishing in the Eco-park front river for the amusement of the eco-park visitors.

Exhibition of Vegetation and Animal: An exhibition of different types of vegetation and animals can be arranged in the eco-park. Especially those creatures which are endangered species and rare trees should get priority in this regard.

Watch Tower: To observe the Dhaka City Structure at a glance a Watch Tower should be set up in the eco-park area.

Flower Garden: To attract the visitors and to increase their amusement Flower Garden with various types of native flowers should be set up in the eco-park.

Research Facility: For research purpose, it is essential to establish a research lab in the park premises.

Before implementing any project, the required objectives of that project need to be evaluated in terms of some basic factors. While proposing an eco-park in Dhaka, potentiality is assessed in terms of some specific factors.

10. *Comparative Analysis of Eco-tourism in Bangladesh*

10.1. *Flourishing of Eco-tourism in Bangladesh*

The concept ecotourism has recently gained importance

and attention in Bangladesh. Bangladesh is a country filled with natural beauty, and magnificent creatures. There are many hills, valleys, forests, natural stream, gardens, beaches, lakes and rivers in Bangladesh. So, ecotourism in Bangladesh is ideal. Although this is still a relatively new form of tourism in Bangladesh, Eco tourism is on the rise and extensive efforts are being made to promote it in the country. Eco tourism in Bangladesh is increasing in popularity as more people come to appreciate the landscapes, unique animal life and fascinating plants of the country.

10.2. Characteristics of Eco-tourism by World Tourism Organization

The characteristics according to World Tourism Organization Characteristics can be summarized as follows, by the World Tourism Organization (WTO):

- (1) All nature-based forms of tourism in which the main motivation of the tourists is the observation and appreciation of nature as well as the traditional cultures prevailing in natural areas.
- (2) It contains educational and interpretation features.
- (3) It is generally, but not exclusively organized for small groups by specialized and small, locally owned businesses. Foreign operators of varying sizes also organize, operate and/or market eco-tourism tours generally for small groups.
- (4) It minimizes negative impacts upon the natural and socio cultural environment.
- (5) Generating economic benefits for host communities, organizations and authorities managing natural areas with conservation purposes.
- (6) Increasing awareness towards the conservation of natural and cultural assets, both in locals and tourists.
- (7) Providing alternative employment and income opportunities for local communities.

11. Conclusions and Recommendations

11.1. Conclusion

The establishment of Buriganga eco-park can improve local communities and meet the demands from the thrust of city dwellers as well as local and foreign tourists/visitors. The objective of establishment of Buriganga eco-park by BIWTA is a great initiatives but the prime component of eco-park are not present in the areas. Still now lots of opportunities are there to incorporate the basic facilities as well as the proper wisdom of BIWTA to make it more effective and efficient for the visitors/city dwellers. But it needs further refinement of its housing facilities, improvement of security, amusement facilities, well equipped transportation, extension of areas etc.

11.2. Recommendations

Conclusions with recommendations have drawn from my examination of the household in the Buriganga eco-park by the following ways.

- (1) There is lack of accommodation facilities. So there need to be establishing hotel and motel with improvement for accommodation visitors/tourists/city dwellers which can grow in number and the scope for local participation.
- (2) Households who do participate in the tourism sector have very little in term of landholding and literacy. Furthermore ecotourism facilities will improve the livelihood status of household who directly participate in this sector.
- (3) The number of local jobs will be created from ecotourism. Such as shopkeepers, hotel & restaurants owners, transportations, guides, daily labors, etc.
- (4) Public awareness about the Eco-park and its resources will be grown up.
- (5) Involvement of local people in the management system is a must. Different systems of management will employ the local people. As for example, the security guard, ticketing system management will be provision for their employment.
- (6) New infrastructures should be approved by the authority. Publicity about the eco-park should be increased. So that more and more people feel interest to visit the eco-park frequently.
- (7) Training program for the park staffs will be arranged to make them skilled, so that they can manage the park efficiently and the visitors may have the good service.
- (8) Entrance to the eco-park must be restricted by ticketing system. By this system the unwanted entrance will be prohibited and the authority will earn some revenue, which may be helpful for better management system.
- (9) Social sentiment must be kept in mind, so that nothing could be happened unwontedly.
- (10) Linkage between Eco-park authority, Ministry of Civil Aviation & Tourism, BIWTA, BRRI, RAJUK, DCC(S), DoE, Ministry of Industry, Ministry of State, Ministry of Planning, Ministry of Forest and Ministry of Communication to be involved for proper management and development of the Eco-park.

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