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LAKE BASE URBAN RECREATION IN DHAKA METROPOLITAN AREA: HATIRJHEEL LAKE AS A POTENTIAL CASE

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Abstract

The main objective of this paper is to investigate tourists' perceptions of services delivered by Hatirjheel lake-based Holiday recreation site in Dhaka Metropolitan area. The six structural variables were tourists' expectation, perceived quality, perceived value, satisfaction, loyalty and complaint. A face-to-face survey was conducted with tourists who had stayed for at least one hour in the Lake. The overall assessment of tourist satisfaction is 4.27 and tourist loyalty is 4.66, which indicates that the respondents are satisfied with the Hatirjheel area. The results indicated that air quality; noise pollution and sanitation were more important varieties. Tourists were more satisfied with the scenic area capacity, air quality, noise pollution and sanitation; while they were less satisfied with water quality, convenient traffic and parking. The sustainability of the Hatirjheel lake holiday recreation depends on the management and environmental management; therefore, the analyses and compares both sides of the utilization of the lake: the demand and the offer.

Keywords: Hatirjheel; Lake Base Recreation; Metropolitan Area.

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1. Introduction

The role of recreation on environmental and human development is necessarily confusing (Serdoura, Moreira and Almeida 2009). The human population benefits from a gathering of resources and processes which are supplied by natural ecosystems (Reed et al 2006). Natural ecosystems and biodiversity give different types of services to people such as fresh water which use in several purposes (Dokulil 2014:p-81). Inland water ecosystems, including rivers, lakes and

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wetlands stands on the hydrological cycle (Aronsson 1994) which provide changeable, supporting and cultural services that contribute directly and indirectly to human well-being through recreation and economic value (Andereck, et al 2005**)**. The quality of the environment, both natural and man-made, is essential to refreshment (ibid:p-83).Lakes occupy an important role in the global balance of freshwater and support a range of human activities, including agriculture, trade, transport, sport and recreation, tourism and food production and electricity(Baten 2013). Lakes are also often unique habitat for a variety of animal and plant organisms (Opačić 2009) which create a unique microclimate (Scott et al 2006) and also provide flood protection (McBoyle and Wall G 1992) are a source of biodiversity, as well as complement the groundwater (Hadwen et al 2006). Microclimate surrounding the lakes has a beneficial effect on human (C. Cooper, 2006).In an increasingly urbanized world (Clivaz 2014), lakes are primary tourist purposes (Turco et al 2002; Hudson 2003; Swarbrooke et al 2003; Weed and Bull 2004; Higham 2005) because of their beauty and their natural and cultural diversity, it also provide opportunities to escape from the stresses of modern life (Huescar 2002).

Now a day's natural and man-made environment (Driml and Common 1996).play a vital role in recreation sector (Dokulil 2014: p-81). Lakes and ponds are particular important freshwater habitats in urban area which providing significant attraction for the public.

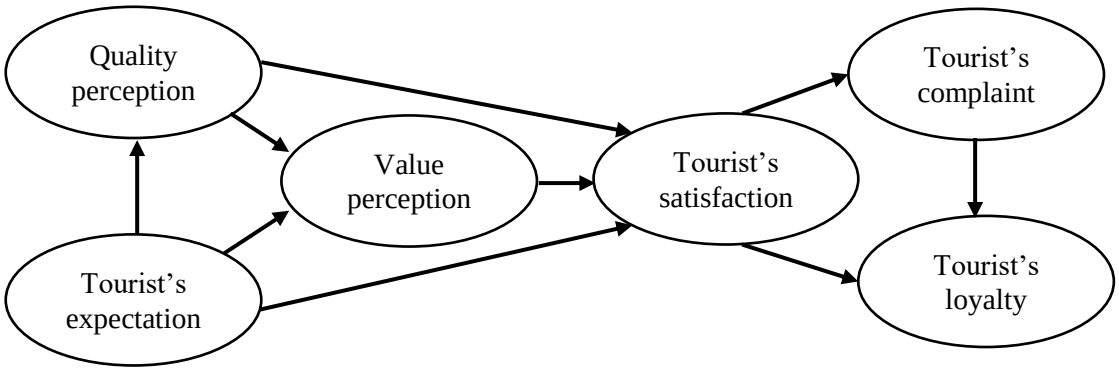

Figure 1: Modify model of American Customer Satisfaction Index (Vasilash 1995)

In mega city like Dhaka metropolitan area water is an attractive element and plays an important role in recreation and holidays (Gattenlöhner 2006). In Dhaka city lakes are generally use as a store house of drain water. Recently Lakes are one of the most valuable recreation attractions sites of Dhaka Metropolitan area because of their natural landscape, high quality environment and cultural features **(Ling-qiang and Qiao 2003).**On the base of the study the lakes are most prominent urban lake recreation development processes. This study to investigate tourist perceptions on the quality of services and products provided in a lake-based recreation and holidays in Dhaka metropolitan area.

2. Study Area

Dhaka city is bounded by three rivers, the Buriganga in the South-West, the Turag River in the West and the North and the Balu River in the East. During rainy season the periphery of the city is inundated by backwater flow from these surrounding rivers and the storm water causes drainage congestion in the center of the city. In addition to surrounded rivers, the city has a number of medium and small khals. Begunbarikhal (also known as RampuraKhal or

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BanasreeKhal) is one of the major drainage khals amongst these that carries storm runoff to the Baluriver from catchments in eastern & central Dhaka. Three tributary khals, Shutibhola and Gojariakhals from the north and Nasirabad-Nandiparakhal from the south, discharge runoff into this khal.

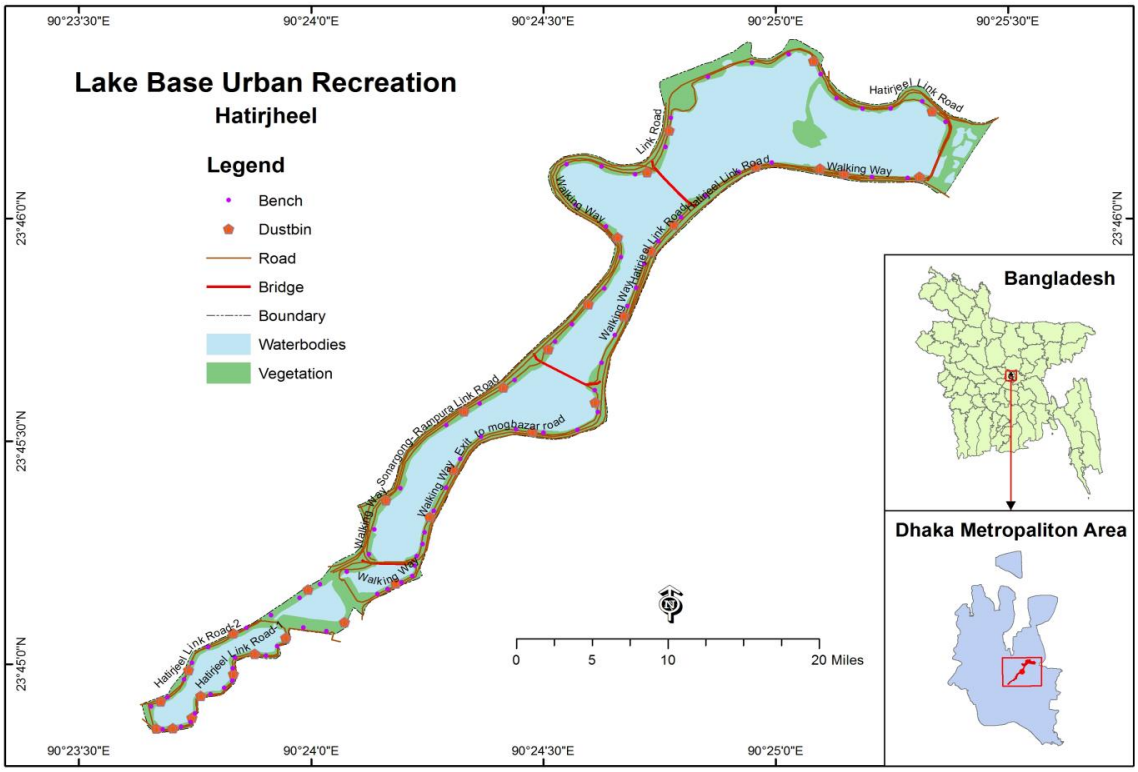

Figure 2: Map showing location of the study area

Hatirjheel, which is now the largest surface water body within Dhaka, also plays an important role in the inflow of BegunbariKhal. It serves very important hydrologic functions of draining and detaining storm water from a large area of Dhaka city. Although designed to carry storm water, the storm sewers discharging into Hatirjheel carry both storm water and dry weather flow. Hence, Hatirjheel-BegunbariKhal system is the largest and most important drainage system of Dhaka city. In recently Hatirjheel Lake is an attractive element of tourism and play an important role in recreation and holidays and it is dependent on the changes of the territory and population, as it needs environmental and socio-economic quality to be sustainable.

3. Methodology

The study focuses on Lake Hatirjheel, the largest man-made and natural lake in Dhaka Metropolitan City, specifically developed to drainage system. The lake is famous for its drainage related activities, where tourists are allowed to come into contact with refreshment, as well as other activities, such as walking, jogging, etc. A face-to-face survey was conducted with tourists who had stayed at least one hour in the study area. The questionnaire survey was used for data collection in the study. The questionnaire was designed according to the tourist satisfaction index model and principle of survey (Zheng 2010; Jian 2004).It contained following three parts: quotation and acknowledgement, the main part of the questionnaire and individual information

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of the respondent. The main part of the questionnaire contained: 1) Information of tourists. 2) Tourists satisfaction survey and tourists' satisfaction evaluation to the measurement items (i.e. observation variables) after the visit. Likert Scale was adapted to test and mark: very satisfied (5 points), satisfactory (4 points), general (3points), not satisfied (2 points), and very dissatisfied (1points). The data obtained were also partitioned different levels based on Likert Scale. It could show tourists satisfaction if the score reaches over 4 points (Likert, 1932). 3) Related information about the tourist expectation, the tourist complaints and tourist security. The individual characteristics of the surveyed tourists were age, occupation, education level, residential location, and monthly income and so on. About 100 tourists at the Hatirjheel Lake at the time the survey was conducted. A reliability test and descriptive analysis were performed using SPSS version 17.0. The mean scores of tourist perception for each construct were calculated and the highest mean score among the constructs was considered to be the most important construct in determining the service quality of the destination.

4. Results

4.1. Basic Information of Tourists

The ratio of men and women tourists surveyed was 51.70% 48.20% to 48.30% which shows that the proportion of male and female responded tourists is almost equal. In terms of the tourists' age, the proportion of tourists between the ages of 26-35 processes the highest accounting for 37.64% of the responded tourists; ranking the second are tourists between 18 and 25 years old, accounting for 32.51%; the ratio of tourists between 36-45years old is in third place, taking up 18.51%. Came in fourth and fifth are the age group above 56 years old and between 46 and 55 years old, which accounts for 5.56percent and 5.78 percent respectively. This can mean that young and middle-aged visitors are the main tourist groups in Hatirjheel Lake tourist area. The most tourists were coming from the center areas of Hatirjheel, accounting for 56.93% of the responded tourists, which had already closed to half of the number of tourists being investigated, followed by 04.44% tourists from outside of Dhaka Metropolitan area. The number of the enterprise worker makes up 41.05% of responded tourists, ranking in the first place in terms of tourists profession. The second and the third are students and retired personnel and housewife, accounting for 22.54% and 14.73% respectively. Staff of public service consisted of 12.51%, ranking the fourth.

Table 1: Basic information of tourists visited the Hatirjheel Lake

Basic information	**Groups**	**Percentage (%)**
Gender	Male	51.70%
	Female	48.30%
Age	18-25	32.51%
	26-35	37.64%
	36-45	18.51%
	46-55	05.78%
	Over 56	05.56%
Regions of tourist coming from	Centre area of Hatirjheel (0 to1km)	56.93%
	Other area of near Hatirjheel (2 to 4Km)	25.61%
	In Dhaka Metropolitan area	13.02%

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	Outside of Dhaka Metropolitan area	04.44%
Occupation	Staff of public institutions	12.51%
	Enterprise staff	41.05%
	Retired personnel, housewife	14.73%
	The unemployed	02.93%
	Students	22.54%
	Others	06.24%

Source: Field survey, 2016

4.2. Tourist Satisfaction Assessment

To achieve the first objective, all the data obtained from the interviews that consist of 6main services with 22 variables are operated. This is to ensure that the index value obtained is comprehensive and truly reflects the satisfaction level of tourists visiting Hatirjheel Lake.

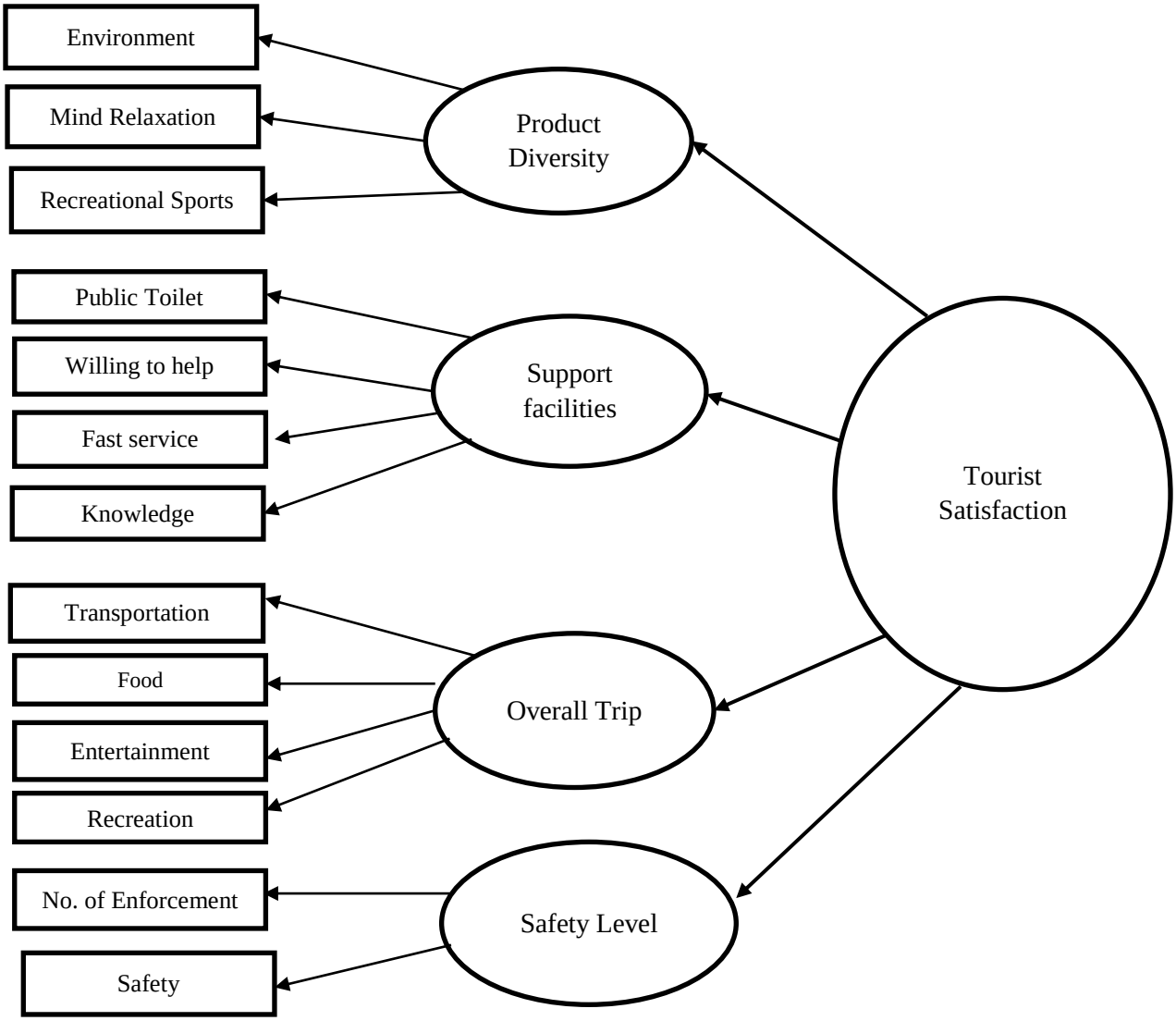

Figure 3: Tourist Satisfaction Variable (2016)

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Based on the analysis, tourist satisfaction on service quality and image destination is average. Based on priority, the tourists are highly satisfied with destination image; followed by diversity of products offered, safety level, infrastructure, support facilities, cleanliness and overall trip as shown in Table.

Table 2: Tourist satisfaction on service quality

Structure variable	**Observed variable**	Strongly disagree	Disagree	Natural	Agree	Strongly agree	**Mean Satisfaction**
		1	**2**	**3**	**4**	**5**	
Location Image	Landscape feature	0	0	2.0	7.9	90.1	4.88
	Visual attraction	0.3	0.3	4.6	17.9	76.9	4.71
	Non-crowded and unspoiled park	3.1	5.9	20.5	16.9	53.6	4.12
	Landscape design	4.2	2.9	17.5	16.4	59.9	4.27
	local resources as equipment and facilities.	0.8	0.8	12.9	16.7	69.2	4.53
	Development was integrated with the local environment/culture	0.8	2.5	11.4	16.5	68.9	4.50
	Vegetation	1.6	4.7	13.4	18.1	62.3	4.35
	Water quality	3.2	2.9	17.5	16.4	59.9	4.27
	Air quality	4.2	2.4	16.9	13.1	63.5	4.29
	Noise	17.5	2.9	3.2	16.4	59.9	4.27
	Transportation convenience	4.2	6.9	2.9	13.1	63.5	4.29
	Management	0	1.0	4.6	18.2	76.4	4.66
Safety Level	Good safety level	0	0.3	5.8	18.5	75.4	4.69
Tourist expectation	Natural expectation	0.3	0.8	6.6	20.4	71.8	4.62
	Social service expectation	0.8	0.5	12.9	16.7	69.2	4.53
	Parking area	3.6	3.6	15.0	17.8	60.2	4.27
	Public toilets	4.2	2.4	16.9	13.1	63.5	4.29
	Fresh water supply	0.8	2.5	11.4	16.5	68.9	4.50
	Food	1.6	4.7	13.4	18.1	62.3	4.35
Tourist satisfaction	Tourist felt safe and secure	17.5	2.9	3.2	16.4	59.9	4.27
Tourist complaint	Complaint	3.1	5.9	20.5	16.9	53.6	4.12
Tourist loyalty	Revisit	1.5	0.3	4.9	16.9	76.2	4.66

Source: Field survey, 2016

The third of satisfaction that respondents were asked to rate considered of four satisfaction variable (table). As with the previous measure a 5-point Likert scale was used to measure these variables. The variable consists of cleanliness, safety and security, condition of facilities and recreation setting.

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The majority of respondents reported "excellent" or "very good" ratings for the quality of satisfaction variable at HatirjheelLake. A very small percentage of those surveyed gave a rating of "fair" or "good" and none of the respondents in the sample related any of the variable "bad". The satisfaction variable that respondents were most satisfied with was recreation setting which had a reported mean score of 4.91 on the 5-point likert scale. Safety and security (4.73) and cleanliness (4.70) followed, with condition of facilities (4.62) having the lowest rating out of the five.

Quality of Variable	Bad	Fair	Good	Very Good	Excellent	Mean
Recreation setting	0	0	3.5	8.2	91.3	4.91
Safety and security	0	2.5	3.5	18.8	77.3	4.73
Cleanliness	0	2.2	4.0	21.2	74.6	4.70
Facilities	0	2.8	5.5	24.5	69.3	4.62

Response scale is 1=Bad to 5=Excellent

Based on the evaluation results of the questionnaire and 6 the importance analysis of the variables, the conclusion and suggestions are:

- The overall evaluation of tourist satisfaction is 4.27,which indicates that the responded tourists are satisfied with the Holiday recreation of Hatirjheel Lake scenic area;
- Tourist loyalty is 4.66, higher than satisfaction, and it implies that tourists revisiting is enough.
- The tourist complaint is 4.12, and it infers that tourists do complain about the scenic area of lack of food facilities and sanitation facilities.
- Among them, tourists are more satisfied with the tourism capacity, air quality, noise and sanitation. So the management department of the Hatirjheel Lake needs to maintain them.
- Tourists show a higher satisfaction degree to landscape features, vegetation, safety precautions, management, natural service expectations and social service expectations. Therefore, the management department should appropriately reduce their focus on them.
- It is necessary to lay stress on water quality, transportation convenience, parking area, good food facilities.

5. Conclusion

Managing natural resources like artificial lake in a sustainable way is a multidimensional and difficult task which needs clear concept of present value and lots of other efforts. Making information on green areas fully accessible to the public could change the perception and ecological awareness of green infrastructure users. In local people who engage in leisure activities are not aware that they are actually local ecotourists. The only difference is that these activities might not have sufficient economic gains. Commercialization of the leisure activities like boat riding and fishing competitions are rarely carried out. The Lake have the essential interest from locals that can also attract visitors who are ecotourists.

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