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Zoo as Ecotourism Attraction – Case of Dhaka Zoo

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Abstract

This paper reports results from a survey of visitors to Dhaka Zoo, Dhaka, Bangladesh. The questionnaire comprised of items relating to motives for visiting the zoo, and evaluations of attributes, thereby permitting an important valuation approach. The construction of the questionnaire was prompted to learn more about what motivated visits, and whether there were perceived deficiencies in visitors' experiences of the zoo. Like other studies mentioned in the report it was concluded that zoos represent an opportunity for family-based trips. However, while some opportunities exist for learning, on the whole visitors were not generally interested in acquiring detailed information about wildlife. Indeed, more importance was attached to the viewing of animals than to the recognition that possibly animals might require 'private places'. These findings may instigate a discussion about the extent to which Dhaka zoo might be able to fulfil its classical missions and that for this to happen significant changes in zoo layout would be required. Additionally, possible implications for zoo management are discussed.

Keywords: zoos, ecotourists, wild-life interactions, national parks, wildlife-based tourism, animal friendly, zoo management

Introduction

Dhaka zoo is the largest zoo in Bangladesh situated at Mirpur, Dhaka. It is the national zoo under the Ministry of Fisheries and Livestock. It was ceremonially opened for public on June 23, 1974. Area of this zoo is about 75 hectares. It has two lakes of about 13 hectares, which receive thousands of waterfowls every year in winter. The total number of vertebrate fauna in the zoo is about 2,150 of 191 species. Included in these animals are about 551 mammals of 64 species, 1,543 birds of 90 species, 73 reptiles of 15 species, and about 104 aquarium fishes of 23 species. To attract visitors besides many fascinating animals, there are 15 tigers, 21 lions, 9 hippopotamus, about 200 monkeys, and 33 pythons. Moreover, some rare and interesting animals such as the rhea, peacock, zebra, elephant, African grey parrot, water buck, impala, emu, baboon, chimpanzee, gayal, black bear, tapir, mandrill, and estuarine crocodile provide additional entertainment to the visitors (Dhaka Zoo, 2007).

The zoo has a captive breeding program and successfully bred the Royal Bengal Tiger, lion, leopard, primates, deer, and many birds. It has animal exchange programs with many zoos of the world. As gifts Bangladesh government presented about 300 zoo animals to different organizations and personalities of different countries including Saudi Arabia, Kuwait, Bahrain,

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and Iraq. The zoo regularly organizes various education programs for students. The various ornamental features of the garden provide an aesthetic background to the animal houses, enclosures and aviaries, scattered all over the area, exhibiting indigenous fauna of Bangladesh as well as exotic specimens collected from different countries of the world (Dhaka Zoo, 2007).

Opening time: The zoo remains open on weekdays (except Sunday) from 8:00 am to 5:00 pm (October-March) and from 8:00 am to 6:00 pm (April-September). It also remains opens to the visitors for certain hours during government holidays (Dhaka Zoo, 2007).

Objective of the Study

The study has been conducted keeping the following objectives in mind; (i) to identify factors that motivate visitors to visit Dhaka zoo, (ii) to analyze the attributes that motivate visitors for visiting that particular zoo, and finally (iii) to suggest what has to be undertaken to motivate the visitors to come to the Zoo individually or with family.

Literature Review

Zoos have been proved to be sites consistently capable of attracting large number of visitors. Oduro for example, found that Accra Zoo was able to sustain high visitation rates from 1987 to 1997 and that no visitors felt that their experience was a waste of time (Oduro, 2001). They also found that children accounted for a very large proportion of visitors, and indeed Turley argues that children are an important determinant in the decision to visit a zoo (Turley, 2001). Ryan also found this to be true when considering wildlife attractions in a more genera sense with reference to Australian tourist attractions based on wildlife, including National Parks (Ryan, 2000). Similarly, Hunter-Jones and Hayward also draw attention to the role of children, and they further argue that zoos have a significant role to play in education and scientific research (Hunter-Jones and Hayward, 1998). If learning is to be a significant component of the zoo visit experience, then some prior research indicates that the mode of information giving is a determinant of the learning that takes place. For example, Broad and Weiler examined learning opportunities at two different locations (Broad and Weiler, 1998). The first was a traditional zoo environment and the second a tourist theme park. The subject studied was visitor learning about tigers. Learning in the domains of cognitive, affective and behavioural modification was studied, and found to be determined by the nature of the display and interpretation being offered. In some instances learning is apparently facilitated by 'hi-tec' constructions which replace the animal with the image. For example, the German concept of the 'Zooseum' sought to develop the traditional zoo as an interactive museum using holographs, computer simulations and virtual reality techniques located in interlinked domes containing library resources, cinemas, exhibitions and workshop space (Verband Deutscher Freizeitunternehmen, 1995).

With reference to scientific enquiry and the provision of learning opportunities, Orams has suggested a model of tourist–wildlife interactions associated with ecotourism, and he located zoos within the model as a means by which visitors could observe and learn about animals (Orams, 1996). It is argued that this perspective has value because there are reasons to believe that ecotourism is not a solution to tourism environmental issues but is, in fact, a part of the problem.

It can be observed that if ecotourism is postulated as 'the solution' to problems about tourism environment interaction, then implicit within such statements is either a recognition of the failure of alternative modes of conservation or a deliberate avoidance of possibly better methods of such conservation. Ecotourism necessarily requires the commoditisation of wildlife and its habitat – that is, it creates a market value out of the observation of animals. Other forms of conservation, based upon deontological principles wherein conservation is perceived as a duty, do not require a direct human 'gaze' of wildlife with all of the possibilities for disruption that such viewing brings. Mason also alludes to such debate with specific reference to zoos by arguing that a need exists for more research into zoo tourism and for identifying possible conflict between the educational, scientific and entertainment roles of zoos (Mason, 2000). Nonetheless, he also notes that arguably zoos can be 'considered as ecotourism attractions' (Mason, 2000: 338). At the same time it must be recognised that, faced with the disappearance of natural habitats, zoos may have a role to play in the conservation of certain species. However, managers of zoos, much as they might wish to concentrate on issues of animal well-being, have to manage sites that are recreational and tourism attractions, and therefore are often required to generate operating revenues. Turley, for example, has argued that, at least in the UK, zoos need to change their functions to reflect not only changing conservation roles, but also to better reflect public perceptions of what those roles are, if only because a significant source of revenue is still derived from public attendance (Turley, 2001). Against this background of debate about the potential functions of zoos, their role within tourism not only as an attraction, but as a possible substitute product for an ecotourism that impinges on increasingly endangered natural areas, there remains the question as to what is it that visitors seek. Holzer, in a study of 750 visitors to Cleveland Zoo, in the USA found that visitors were motivated by, in order of importance, family togetherness, enjoyment, novelty seeking, education and relaxation to visit zoos (Holzer, 1998). Again they comment that children were an important determinant of visitation. In another USA study, Andereck found that visitors could be clustered along dimensions of visiting for purposes of recreation and novelty, going for the educating of others, going for specific educational reasons, and finally for photo- graphic opportunities (Andereck, 1991). They concluded that recreation and education of others (generally children) were significant motives. Other studies of visitors have examined the way in which they use interpretative signage, the viewing times and routes used, and which types of animals attract most attention. For example, Churchman and Bossler (Churchman and Bossler, 1990), were able to predict routes taken by typical visitors after examining flows within Singapore Zoo, and they also noted that the mean time for viewing exhibits was 62.8 seconds, but with a high standard deviation based on the popularity of the animals and their behaviours (e.g. big cats could attract more attention when active, but less when sleeping). Similarly, Balmford compares findings from a study at London Zoo with earlier studies conducted at Zurich by constructing visitor time budgets, and uses the findings to discuss portfolios of species that are attractive to visitors and the implications for acquisition policy (Balmford, 2000). Contrary to some expectations it was found that smaller and often lower costing mammals represented potentially good returns for both visitor and zoo management.

From the work undertaken by Orams (1996), Ryan (2000) and Shackley (1996, 2001) it would seem that in wildlife tourism a continuum might exist between, on the one hand, seeing animals in their natural habitat with minimal human intervention, to, on the other hand, seeing animals

within zoos in environments that can only be sustained by human action. Ecotourism is often defined in ways that include the appreciation of wildlife, but there is usually a presumption that such wildlife is to be observed with minimal disturbance within its natural settings. For example, Weaver specifies that ecotourism is 'a form of tourism that fosters learning experiences and appreciation of the natural environment, or some component thereof, within its associated cultural context . . . preferably in a way that enhances the natural and cultural resource' (Weaver, 2001: 15). Subsequently Weaver notes that 'even non-consumptive forms of wildlife-based tourism, such as viewing, can have negative consequences for the species being observed'. Thus it appears that there are strong arguments to suggest that, at the very least, some forms of ecotourism involving animal encounters might be inimical to the purpose of animal protection. Briefly these reasons include the following:

i. Threats of disruption of natural behaviours relating to nesting, breeding, feeding etc.
ii. Threats to animal well-being exist in diseases communicable to some species from humans.
iii. Ecotourism is still a form of tourism, that is, it is about taking pleasure (Duffy, 2002). It still means an invasion of space and natural habitats not previously exploited by people as leisure space (McKercher, 1993; Wheeller, 1993).
iv. Ecotourism is a directed viewing of nature and wildlife, and that, like other forms of tourism, is the spectacle that is sought rather than a holistic understanding of natural processes (Ryan, 2000).

An argument that is advanced in favour of zoos is that they can act as a substitute for tourism in natural spaces, and in doing so may be able to meet some of the aspirations expressed by tourists. The viewing of animals in zoos takes place in controlled environments that explicitly state the dependency of animals on human intervention, and by definition they are not 'natural'. However, modern zoo design places an emphasis upon being 'animal friendly', even to the point where enclosures contain places of privacy for animals away from human eyes.

Hence, the need for education becomes more prominent because zoo management has to explain that animals might not always be seen. In some ways the epitome of the modern zoo is that of Disney's 'Animal Kingdom' in Florida, USA, which emulates some of the experiences of the African safari tourist experience. Beardsworth and Bryman (2001: 101) argue that the zoo has been subjected to four themes of 'disneyfication', namely theming, dedifferentiation of consumption, merchandising and emotional labour, and thereby offering 'an accessible and palatable model of humankind's continuing ability to exercise power over nature'.

Reynolds and Braithwaite (2001: 31) argue that tourism based on interactions with wildlife is increasing in popularity across the world. It is suggested that the values of conservation, animal welfare, visitor satisfaction, and profitability are often in conflict in wildlife tourism (WT) and tradeoffs are necessary. While there is a range of factors involved, the most germane are impact on the environment and quality of the experience.

According to Hunter-Jones and Hayward (1998), a zoo is a general collection of predominantly wild animals, contained in an area of 110 acres or less, made accessible to human observation.

However, the increased interest in wildlife has not necessarily had a positive impact on zoos. But there is argument that market forces may lead to the betterment of zoo design to the advantage of animal welfare and conservation programmes, and to the financial advantage of zoos by being more attractive to visitors.

Some of the literatures about animal–human interactions have concentrated on the effects on tourists with reference to enjoyment, satisfaction and behaviour changes. Reynolds and Braithwaite (2001) suggest that the power to 'hold' visitors is increased by several factors. These include motion of the animal, animal size, visitor participation, presence of an infant, ease of view ability and visitors' perceptions. Further researches done on the relationship between body size of animals and the popularity of the zoo, and conclude that there is a positive relationship, with both adults and children preferring exhibits with larger animals.

Linge (1992) suggests that visitor satisfaction will increase with the use of participation techniques such as visitors directly feeding animals. Holzer et al. (1998) studied socialisation and adult zoo visitation and found that people were motivated by family togetherness, enjoyment, novelty seeking, education and relaxation needs. They also found that adults who had visited zoos as children were more likely to come as adults, and visit a variety of zoos.

Among the educational studies Churchman (1985) asked how and what did recreational visitors learn at zoos, and what are the educational impacts of zoos and museums. Based on studies at Singapore and Melbourne zoos, he concluded that zoo administrators believe education is one of their four major goals; that the primary educational component of zoo exhibits is the animals themselves; and that learning is both cognitive and affective and varies among visitors on the basis of their previous knowledge. Orams (1996) argues in his research that the goals of education-based management strategies are to reduce the incidence of inappropriate visitor behaviour by encouraging a voluntary behaviour change and to increase visitor enjoyment and understanding, making a potential win-win situation for both wildlife and tourists. The literature has also focused on conservation. Zoos are seen as a way of protecting wildlife, but they can also be perceived as cruel, according to Rhoads and Goldsworthy's (1979) research on the effects of zoo environments on public attitudes towards endangered wildlife.

Methodology of Study

For the preparation of this study paper both secondary and primary sources of data were used. For secondary resources of data respective standard literature was studied and related Web Pages were intensively browsed. To collect necessary secondary data about Dhaka Zoo, the documents of Zoo authority and publications in this regard were searched.

For gathering the required primary data and information about the zoo and its management questionnaire was prepared and the view of the visitors regarding the questions collected. To collect the information from the randomly sampled population a structured interview schedule was developed. In the questionnaire 'Semantic Differential Scale' for measuring the reaction of the respondents was introduced. Initially a draft questionnaire was prepared that was pre-tested and necessary correction was made before being finalized. The study has been prepared on the

responses of 60 randomly sampled visitors of the Dhaka Zoo. The survey was conducted during the period from February 2008 to April 2008.

The questionnaire reflects the objectives of the research, and it is divided into three sections, namely: (i) a list of zoo attributes and a rating of the performance of these attributes for visitors; (ii) an evaluation of the zoo visited, so permitting an importance-evaluation framework to be established; and (iii) a section requesting open-ended responses and observations. However, no demographic data as to age, gender and party composition were collected to avoid more complexity. For analyzing the collected primary data statistical methods like means, standard deviation, variance, and factor analysis were used. For this purpose the computer based statistical program SPSS was utilised.

The items that comprise the questionnaire were formed by issues raised in the literature, as described above, plus observation and discussion with zoo personnel. With questions relating to aspects such as infrastructure facilities, family outings, ease of viewing animals, etc. The respondents were asked to record what attributes of a zoo were important to them and how they evaluated Dhaka Zoo on the same items. The approach has been used widely in tourism research and has been discussed by a number of researchers (e.g. Ho, 2001; Ryan, 1995). Finally, questions were associated with a seven-point Likert-type scale with a non-response option as recommended by Ryan and Garland (Ryan and Garland, 1999).

The survey was administered by the co-authors. They visited the Zoo, selected the willing visitors randomly, put forward the questionnaire and collected their views about the different questions. A total of 60 surveys were completed of which 46 were used in the data analysis. One disadvantage of the research design is that the response to the questionnaire demanded more time. The respondents accompanied by young children found it difficult to complete the answer. Hence, some questionnaires were not fully answered. However, it was not possible to ask to complete questionnaire, as they were on enjoyment trip.

The Analysis of Survey Investigation

The diagrammatic presentation of the survey investigation shows that there is an insignificant satisfaction of the visitors with the Zoo, at Mirpur, Dhaka.[1] It is just above zero. However, the responses of the visitors on questions show that the visitors were extremely dissatisfied with the services of the zoo. Only on the question whether the admission fee in the zoo is acceptable, they agreed that the entry fee was acceptable[2]. Nevertheless, they recognized and positively valued that the zoo should be a place for refreshment which might be visited with the whole family.[3] The responses of the interviewed visitors on following questions were very disapproving (Diagram):

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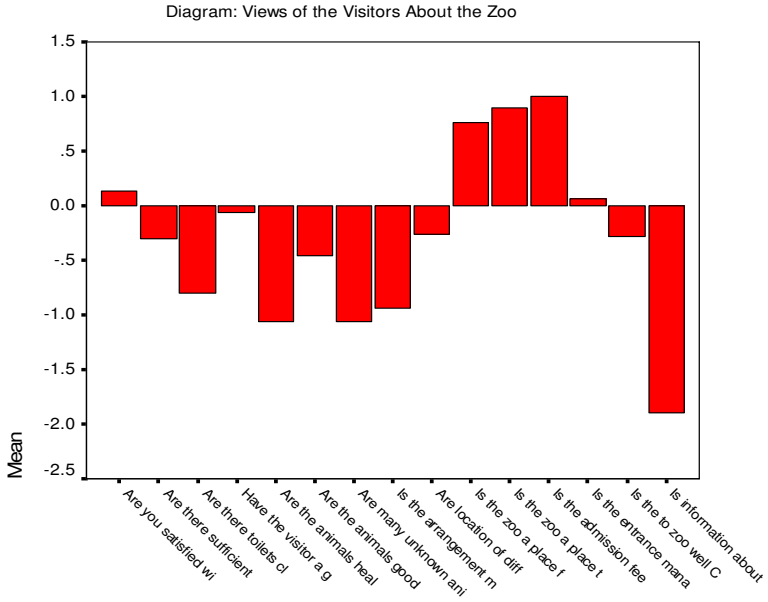
[1] We have a positive grading of the response of the interviewed from 0 to 3 and a negative grading of the same from 0 to -3.

[2] It is indicated by the Diagram by the fact that the bar which represents responses of the interviewed visitors regarding entry fee is a vertical slab above the base line.

[3] It is also indicated by the Diagram by the fact that the bars which represent the responses of the interviewed visitors regarding the related questions are slabs above the base line.

(i) Were there sufficient toilets?, (ii) Were the toilets clean?, (iii) Had the visitor a good view of the animals?, (iv) Were the animals healthy?, (v) Were there enough number of animals in kinds?, (vi) Were there many unknown animals in the zoo?, (vii) Was the arrangement made that the children could easily see the animals?, (viii) Were the locations of different animals demarked clearly?, and (ix) Were the information about the zoo available?

The diagrammatic presentation is obviously supported by descriptive statistics of the findings of the survey. The mean of the satisfaction of the investigated visitors was only .1303 at 3 grade valuation, whereas standard deviation of the mean satisfaction was 1.55790 (Table-1). This shows that though there is a slight positive mean of the satisfaction, the disagreement with satisfaction is very high. Besides, only in the question of 'Entry Fees' there is a little approving responses. The surveyed visitors seem to be a bit satisfied with the amount of 'Entry Fees' set by the zoo authority. The mean of the responses on the question whether the zoo is a refreshment place is 0.7609 with standard deviation of 1.17728 (Table-1). It means the visitors accept the zoo as a refreshment place which had to be visited with family. The mean of the responses on the question whether the admission fee in the zoo is acceptable was 1 with a standard deviation of 1.50555, which is the best result of the survey (Table-1). It implies that the 'Entry Fee' of the zoo is not a major issue of dissatisfaction.



Source: Survey data (Constructed using SPSS)

Table-1 Descriptive Statistics

	Mean	Std. Deviation
Are you satisfied with over all conditions of the zoo?	.1304	1.55790
Are there sufficient toilets?	-.3043	1.36414
Are there toilets clean?	-.8043	1.04604
Have the visitors a good view of the animals?	-.0652	1.51147
Are the animals healthy?	-1.0652	1.04141
Are the animals good in number?	-.4565	1.29454
Are many unknown animals in the zoo	-1.0652	.61109
Is the arrangement made that the children can easily see the animals?	-.9348	1.46670
Are locations of different animals made?	-.2609	1.25494
Is the zoo a place for refreshment?	.7609	1.17728
Is the zoo a place to visit with the family?	.8913	1.01605
Is the admission fee in the zoo acceptable?	1.0000	1.50555
Is the entrance managed?	.0652	1.20004
Is the Communication to the zoo well?	-.2826	1.34434
Is information about the zoo available?	-1.8913	.92444

Source: Survey data (Constructed using SPSS)

The 'Pearson's Coefficient of Correlation' between the dependent variable 'the satisfaction of the visitors' with the investigated issues shows that some of investigated issues were relatively positive valued. As for instance, the 'Cleanliness of the Toilet', 'View of the Animals', 'Number of Animals', 'Identification of the Location of the Animals', and 'Communication to the Zoo' seemed to have acceptable standard, though these remained far behind the satisfaction level of the visitors. As for example the coefficient of correlation between satisfaction of the visitors and cleanness of the toilet was only .598 which has to be set just above the average level.

The 'Pearson's Coefficient of Correlation' between the dependent variable the satisfaction of the visitors with the investigated issues like cleanliness of the Toilet, Good View of the Animals, Number of Animals, Identification of the Location of Animals, and Communication to the Zoo show that some of the issues investigated were relatively positively valued though these remained again far behind the expectation. Similarly the correlation between satisfaction and view of the animals, number of animals, locations of animals, and communication to zoo was just around the average level. The correlation between satisfaction and other studied issues of the zoo services like number of toilets available, children convenience, health of the animals, unknown animals, information provided by the zoo were insignificant. The correlation between the facilities and the entry fees is negative; it means in fact that there is no explainable relationship between the facilities and the amount of entry fees. In other word, the entry fees seem to play no role for visitors. From this it may be concluded that with improved services and facilities the entry fees could be increased.

Table-2: Pearson's Coefficient of Correlations (2 Tailed Test at 5% Significance Level)

The Issues	Are you satisfied with the zoo?
Are there sufficient toilets?	.218
Are there toilets clean?	.598*
Have the visitors a good view?	.504*
Are the animals healthy?	.266
Are the animals good in number?	.482*
Are many unknown animals in the zoo	.126
Can children easily see the animals?	.259
Are locations of animals made?	.450*
Is the admission fee acceptable?	-.076
Is the entrance managed?	.281
Is communication to zoo well?	.315*
Is information about the zoo available?	.052

* Correlation (Pearson Coefficient of Correlation) is significant at the 0.01 level (2-tailed).
Source: Survey data (Constructed using SPSS)

The factor analysis (Table-3) show that among the issues number of toilets (Sl. No. 1), view of the animals (Sl. No. 3), number of animals (Sl. No. 5), children convenience (Sl. No. 7), identification of the locations of the animals, (Sl. No. 8), entry fee (Sl. No. 9), and communication to the zoo are classified by the surveyed visitors as most important. The variance analysis of the factors again shows that among these issues number of toilets (Sl. No. 1), view of the animals (Sl. No. 3), identification of locations of the animals, (Sl. No. 8), entry fee (Sl. No. 9), and communication to the zoo (Sl. No. 11) are extracted as most significant. So, for any future improvement in the service and facilities of the zoo these factors have to be given most preference. The other factors like clean toilet, management of the entrance, and information about the zoo have less important role for the visitors. The visitors gave the least significance to the issues health of the animals, and unknown animals (Table-3).

Table-3: Factor Analysis

Sl.No.	**Factors**	**Raw**		**Rescaled**	
		Initial	Extraction	Initial	Extraction
1	Are there sufficient toilets?	1.861	1.756	1.000	**.944**
2	Are there toilets clean?	1.094	.698	1.000	.638
3	Have the visitors a good view of the animals?	2.285	2.068	1.000	**.905**
4	Are the animals healthy?	1.085	.370	1.000	.341
5	Are the animals good in number?	1.676	1.354	1.000	**.808**
6	Are many unknown animals in the zoo	.373	.122	1.000	.325
7	Is arrangement made that children can easily see animals?	2.151	1.885	1.000	**.876**
8	Are locations of different animals made?	1.575	1.437	1.000	**.913**
9	Is the entry fee in the zoo acceptable?	2.267	2.194	1.000	**.968**
10	Is the entrance managed?	1.440	.967	1.000	.671
11	Is the communication to zoo well?	1.807	1.631	1.000	**.902**
12	Is information about the zoo available?	.855	.603	1.000	.705

Extraction Method: Principal Component Analysis.
Source: Survey data (Constructed using SPSS)

The variance analysis of the factors shows that 5 (five) issues are extracted as most significant. These are the entry fee in the zoo, toilets in zoo, locations of different animals, good view of the animals and the communication to zoo. It does not mean necessarily that the other issues are to be ignored; however, the significant issues may be considered with emphasis.

Table-4: Total Variance Explained

	Initial Eigenvalues [1]			Extraction Sums of Squared Loadings		
Component	**Total**	**% of Variance**	**Cumulative %**	**Total**	**% of Variance**	**Cumulative %**
1	5.852	31.684	31.684	5.852	31.684	31.684
2	2.901	15.707	47.392	2.901	15.707	47.392
3	2.458	13.307	60.699	2.458	13.307	60.699
4	2.229	12.070	72.769	2.229	12.070	72.769
5	1.645	8.908	81.677	1.645	8.908	81.677
6	1.040	5.631	87.308			
7	.908	4.917	92.225			
8	.515	2.787	95.012			
9	.372	2.014	97.026			
10	.241	1.306	98.332			
11	.179	.971	99.303			
12	.129	.697	100.000			

Source: Survey data (Constructed using SPSS)

Inference

From the theoretical discussion and the quantitative data analysis collected from the field survey so far concrete inferences may be made. In this regard it may be pertinent to mention that the Dhaka Zoo have multidimensional problems and constraints. In this study, initiative have been undertaken to concentrate on the most burning issues. In the light of the findings of the study following inferences may be made:

Inferences regarding general administration and arrangement:

- Respective staffs should be trained so that the cashier are responsive and give friendly greeting to the visitors.
- Arrangements should be made throughout the Zoo by setting arrows or billboards to direct people to animals.
- Exits and facilities should be marked clearly through arrows or billboards.
- Since the zoo is visited with family members, so footpaths should be wide enough for two strollers to pass each other easily.
- Families sometimes take up lots of room, so footpaths should be wide enough for three to four people across.

[1] Extraction Method (Principal Component Analysis: The components having 'Total Eigen Values' more than 1 have been extracted considering that the 'Cumulative Eigen Value, is not more than 85%.

- If there is not enough space then a one-way system should be made. This could be done with arrows on the paths for everyone to follow

Inferences regarding technical arrangements and facilities:

- The inlet to the Zoo is too narrow and congested. It should be widened so that the visitors have easy entrance to the zoo.
- The number of more distinct and attractive signposts should be increased but it should not destroy the beauty of the Zoo.
- If necessary some of the trees should be cut down so that the signposts become more visible but the Zoo remains decent.
- To ensure a good view of the animals, it should be made sure that there is a path around the enclosures of the animals so that visitors can get close-up views of the animals.
- It should be made sure that there are platforms for children to see over the fences.
- Wire should always be used to construct enclosures of animals so that children can see through it.
- No shrubs should be planted near the viewing platforms.
- Steps or platforms should be used for children to stand on those.

Inferences regarding enclosures of the animals:

- The enclosures of the animals should be so that these help replicating the animals' native habitat.
- To keep the animals active and entertained, the materials used for construction of the enclosures should be similar as they have in the wild.
- The arrangements should be made so that the animals have natural living environment and they 'do natural things'.
- The animal enclosures should have such a size that these are healthy for the animals and the visitors perceive these as adequate for the animals.

Inferences regarding toilet and refreshments services:

- Around the Zoo enough toilets and refreshment facilities should be set so that families with children and senior visitors do not need a long walk to go to the toilet.
- Toilets should be cleaned several times throughout the day, especially at busy times. If it gets busy and people do not have easy access, it indicates that more staffs are needed. Specific times should be scheduled so that staff can get into a routine cleaning of the toilets.
- Toilets should be inspected several times throughout the day, especially at busy times.
- There should be enough arrangements to get a drink and other refreshment services like fast foods, snacks, coffee, tea, etc.
- Water fountains should be set up around the Zoo to ensure the supply of fresh drinking water especially in the summer time.

Inferences regarding dissemination of information about the zoo and the animals:

- All information regarding the Zoo and the animals must be easily accessible.

- Information about the animals should be provided directly beside the enclosures of the animals.
- The information should be made easily visible and big enough so that a lot of people can read at one time.
- Extra information about the animals and the zoo should be made available at reception if people want to know more about a particular species or the breeding programs.
- Information and pictures displayed on boards should be at such a height so that children can read them.
- Billboard type information may be arranged so that those can always be seen by everyone.
- Website and webpage may be used for the dissemination of the complete information of the Zoo.

Conclusion

There is a conclusion that the size of animal enclosures is as much related to the family feeling good about their visit as it is concerned with animal welfare. The related evidence worldwide in this regard is not conclusive. However, it may be argued that animal welfare would have been evidenced by recognition that upon enclosures replicating natural habitats have been emphasised by the visitors having a good view of the animals. Of course, it is recognized that these issues are not that clear cut. Zoo animals may become habituated to high flows of visitors and thus not be bothered by them. It may be true in some instances that some animals may have the feeling of deprivation by human presence.

Zoos are artificial constructs and by definition have little appeal to 'ecotourists'. Equally, zoos seem to be more successful at attracting a family market than an ecotourist segment that has a genuine concern about animal welfare. There exists a difference between declared motive and actual behaviour of the ecotourists (Ryan, 2000). They are prepared to place animal habitats second to their wish to view the animals. If zoos are to replace natural habitats as safe places to observe endangered species, then Disney has got it right. People want to observe animals in as natural a setting as is possible to have the experience of 'peering through undergrowth'.

For many visitors it might not matter that the animals are fed by rangers, vaccinated or are wholly dependent upon humans. The lesson appears to be that for zoos to become more attractive as a tourist destination, they must become more like replicas of natural areas. Zoos are not relieving any pressure at all on remaining natural 'wild' areas of the world. They encourage a belief that animals are important as subjects of a human gaze; they attract family audiences that pass on values that endorse the viewing of animals for entertainment purposes.

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