

Review Article

VISITOR'S IMPACT ON ZOO ANIMALS

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Abstract

Visitors come to zoo for either educational or entertainment purpose. Various researches related to the visitor's impact on zoo animals have shown that the presence of visitors, their density and activities are associated with behavioral changes in the animals. The impact of visitors on zoo animals can be either positive, negative or neutral depending on the species of animals. Positive impact of visitors can be seen in some species such as increase in sexual interaction while in some species negative impacts such as self-biting, decreased social behavior and increased aggressiveness can be seen as a result of interaction with visitors. Negative influence of visitors on zoo animals can be reduced by adopting various measures namely use of one way mirror, camouflage nets, and adoption of strict rules by the zoo. Thus, the zoo should adopt various measure to encourage the positive interaction as well as to reduce the stress in animals resulted due interaction with visitors.

Key words: zoo, visitors, impact, animals, behavior

Introduction

A zoo is a place where animals are kept in confined spaces with the main aim of displaying them to public. Many animals are brought away from their natural habitats and kept in a common place in captivity so that people can have a worth time watching those animals. Earlier, zoos were mainly meant for displaying as many unusual creatures as possible in a very small area and putting them in display with the motive of showing fame and power by the Emperors. Later zoo emerged as a business platform and animals were confined and displayed to public for earning money but due to the emerging issues of animal welfare the emphasis of modern zoos have broadened to the protection of endangered animals and also to help in increasing their number by breeding. But whatever the main emphasis is, the animals in the zoo are raised under captive conditions; hand fed by human and is allowed to live in an enclosed area with very limited room for movement and social activities. According to the animal right activists, the cost of confining the animals overpowers the benefits and the violation of rights of individual animals even in the efforts to save them from extinction cannot be justified. These issues have made zoo as a major center for advocating on animal welfare topics. Over the past few decades various research have been carried out regarding animal enclosures, nutrition, physical environment, social conditions and zoo-visitor effects and their impact on animals which bring out light to various animal welfare

issues and helps to find out ways to cope out with the problems faced by animals in captivity.

Zoo animals and visitors relationship

In the modern days, zoos have become a place for enjoying weekends, family trips and also educational visits. The Central Zoo of Nepal located in Jawlakhel, Kathmandu is visited by over 1 million visitors annually (<https://ntnc.org.np/project/central-zoo>). Due to the increasing popularity of zoo among people, large numbers of visitors come to visit the zoo every year which includes the people of different age groups and different interests. Some may be quite and keen observers while the others may be mischievous and noisy. Many people find fun in watching the animal behavior and enjoying their unique physique while the others find it fun in teasing and disturbing the animals. Similarly, the rush of visitors is also uneven throughout the year as the zoos are more crowded in the time of holidays. Thus, the confined animals have to encounter various kinds of people in the zoo and they experience a completely new environment which is in no sense similar to the environment of their natural habitat. Studies since 1970s show various relationships of zoo animals with visitors. The presence of visitors, their density and their activities are associated with the behavioral changes in animals and to a lesser extent to the physiological changes in them. For some animals visitors provide a source of variability and therefore

serve as environment enrichment while for some animals visitors mark a sign of threat and danger. Different types of animals exhibit different change in behavior with regard to their interaction with visitors. Earlier researches have shown that visitors' effect on behavior of animals may be positive, negative or neutral depending on the species of animals. These earlier research works revealed that zoo visitors influenced the behavior of captive animals to a greater extent than it was previously thought and it also guided the way for future researches. Various efforts to understand the relationship between visitors and animal behavior has recently increased and there is now an emerging literature about animals' responses to various visitors' variables.

Positive effect of visitors on zoo animals

Animals of the primate family and larger animals are seen to have positive influences due to the presence of animals in zoo. This may be due to the fact that larger animals don't consider humans as their greatest threats and the visitors act as environment enrichment for those animals. Increased sexual behavior has been seen among chimpanzees when the zoo visitor's number increased (Thompson, 1976). Similarly, a research done in the following year showed the increase in frequency of loriod primate behavior after a primate house was opened to public (Oswald and Kuyk, 1977). In a study of interaction of visitors with long-billed corellas, it was found that the corellas spent majority of time pacing and dancing when the visitors were around (Nimon and Dalziel, 1992). These results show that visitors can be a source of enrichment for many animals and thus play a positive role in influencing the animal's behavior.

Negative effect of visitors on zoo animals

Most of the times, visitors have a negative effect on the behavior of the zoo animals. Small animals can take visitors as a threat to them and thus show stressful behaviors while the wild animals can be stressed by the visitors because the presence of visitors create a different environment in the zoo which is completely different from the animals natural habitat. When a research was carried out between two groups of cotton-topped tamarians, the groups exposed to visitors showed less social behavior than the group that was kept away from the visitors. (Glatston, Geilvoet-Soeteman, Hora-Peck and van hoff, 1982). Similarly,

lion tailed macaques of the Indian zoo showed more social as well as reproductive behaviors on the days when the zoo was closed. Increased levels of self-biting and pacing were also observed in the lion-tailed macaques due to the presence of visitors. (Mallapur, 2005). Significant increase in aggression and decrease in grooming was seen in lemurs. (Chamove et.al. 1988) In a study of wild animals, Indian leopards were seen less active during the presence of visitors. (Mallapur and Chellam, 2002). Furthermore, crowd and visitors activities can increase the negative impact on the behavior of animals. High visitor density was found associated with increased aggression in stump-tailed macaques (Simpson, 2004). In a study, young orangutans were found attached to their mothers on arrival of large group of visitors. The male orangutans also showed increased aggressive behavior in response to continuous human stares (Birke, 2002). These studies are a proof that the presence of visitors is associated with the negative behaviors in zoo animals and furthermore the presence of crowd or unwanted activities by the visitors can play a role to increase the negative impact observed in the animals.

Ways to reduce the negative impact of visitors on zoo animals

As seen from the studies, it is found that few species of animals are more prone to the negative impact of visitors than others. By evaluating the differences in interactions of different animals with the visitors, zoo can make plans to take benefit from the positive interactions and adopt ways to reduce the stress in animals which are more prone to the negative impacts from visitors. All the areas in the zoo don't have same visitor density. Areas around the entry and exit points as well as the areas around parks usually have more visitor density. The positive interaction can be encouraged by keeping the animals that show positive response to the visitor's presence near those areas. Similarly the animals prone to more negative impact can be placed away from the areas where visitor's density is supposed to be high so that their interaction with visitors can be reduced which will certainly be useful to reduce the negative impact. Similarly, smaller animals can be kept in larger groups to increase their social activity which can also be useful to cope up with the stress. Exhibit designs such as one way mirror and camouflage nets have also been proved effective in reducing the negative impact of visitors on zoo

animals. When a camouflage net was placed between gorilla and visitors, the gorillas tend to show more exciting and less aggressive behavior (Blaney and Well, 2004). In the same way, keeping enrichments for the animals inside their enclosures also showed positive results in reducing the stress of animals. The enrichments made the enclosures both aesthetically pleasing for visitors and more comfortable for the animals (Reade and Waran, 1996). Another way to reduce undesirable behavior in animals can be by increasing the locations from which visitors can view the animals. By doing this, unwanted activities such as teasing and feeding the animals can also be reduced. And the most important of all, the zoo should make proper rules for the visitors and focus on implementing them properly. There should be signs at different places and staff members should be present at areas where visitor's density is more to control the noise and to check the violation of rules by the visitors. In this way, the negative impact of animals can be minimized and zoo can be made a better place for the animals.

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Conclusion

Different species of animals have different response to the visitors in the zoo. As modern zoo play an important role in educating people and giving room for various research works, it is important for the zoo to understand the relationship between the visitors and animals and act accordingly for animal welfare. The zoo should focus on providing a good environment to the animals by adopting various measures to reduce the stress in animals due to the effect of visitors. Furthermore, future studies should be intensified including wider range of animal grouping and better measures of stress so that zoo can be made a better place for animals.

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