

HUMAN-ANIMAL CONFLICT AND THE BIODIVERSITY IN THE INDIAN PERSPECTIVE

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ABSTRACT

India is a biodiversity-rich country where a large number of species of flora, fauna and aquatic animals exist from the time immemorial. Not only that but also, the discovery of new species in any of these living beings comes into the knowledge domain of humans. All such creatures live and lead their life in their own ecosystems. Apparently, there is enough space for them to move around and thrive without lets and hindrances by other living beings. In contrast to aquatic bodies like the rivers, seas and the oceans, the areas of forests and green cover are not the same. The situation has changed drastically during the last fifty years or so due to rapid demographic changes. The gradual spurt in human population has made inroads into the safe precincts of forest areas which has been the natural abode of wildlife including flora and fauna. In order to accommodate the swelling human population, the systematic cutting and thinning of forests began causing danger to the wildlife habitats. The jungles were not only cut for the purpose of habitations but also for other allied purposes such as agriculture, industrial, commercial and many more. Resultantly, the area under the wildlife population began to decline by leaps and bounds within a short time. Moreover, this process made the entry of poachers into the forests much easier. Hence, the wildlife, especially the predators and other big animals, have to look around for food and fodder purposes. They were forced to move outside their naturally-designated territory to the adjacent human habitats. This phenomenon gave birth to human-animal conflict which has assumed larger proportions in the current times.

The Ministry of Forests and Environment has delineated a number of dwelling places for the wild animals in the form of national parks, sanctuaries and biosphere reserves in India which are legally deemed to be protected areas for any specific animal or the wild animals in general. However, in spite of the large presence of these animal habitats, the incidents of human-animal conflicts are increasing day by day and that is a cause of concern for all. There seems to be the

two main reasons for this unending phenomenon: first, the area under the animal habitation has shrunk grossly, and secondly, the human habitats have come up in the close vicinity of forest areas. As a result, when the wild animals don't get sufficient food in the forest area, they go outside in search of food, and find themselves in front of human adversaries.

This paper tries to analyze the various causes of human-animal conflict and the role of biodiversity in enhancing it. Some possible solutions have also been suggested for resolving the cantankerous issue at present.

Keywords: Human-Wildlife Conflict, Forests, National Park, Sanctuaries, Biodiversity.

INTRODUCTION

Human-Animal conflict is on the rise in India resulting in growing casualties every year from both sides. The statistics, provided by the Ministry of Environment, Forest and Climate Change, states that more than 1,608 humans were killed because of this conflict involving tigers, leopards, bears and elephants between 2013 and 2017.ⁱ In this context, it is pertinent to note that in there exists the largest population of tiger, Asian elephants, leopard and sloth bear. These animals basically are wild and cannot be restricted to demarcated territories. They need large and expansive spaces to live their natural life. But the constant phenomenon of making inroads into their natural habitats by humans forces them to move out of their territories. This is particularly true in the case of big animals like elephants, tigers, leopards, bears etc. Resultantly, elephants and other wild animals are killed every year in India as their paths cross those of humans.

Thus, outward movement of wild animals has other dimensions also. They enter the fields of the farmers in the vicinity of the forest area and destroy the crops by either consuming it or by trampling it, in the case of elephants. This amounts to a big blow for them who are fully dependent on the sown crops as a means of livelihood. Often, the wild animals attack them while defending their crops. Many of them are badly injured and some of them are killed in the process. In another contingent situation where there are no such fields in the vicinity of the

forest area, these animals cross their limits, and move towards the human habitations in search of food. That is how they are found roaming in small towns and big cities alike.

THE CATALYTIC FACTORS

The important factors of this crisis are many. The explosion of human population is the most significant factor which has resulted in shrinking forest cover. Unprecedented urbanization has wide ramifications related to human-animal conflict. Clearing of forest lands for habitation purposes has brought miseries to the wild animals, and they are compelled to move further in search of food and habitats. Not only this but also, human activities such as mining, drawing up of electric poles for electric supply, construction of roads, irrigation canals and other infrastructure projects have aggravated the problem. Destruction of natural corridors and agricultural expansion are the other burning problems.

The causes and instances of human-animal conflict in regard to wild animals (category wise) can be enumerated as such:

1. Elephants

Asiatic elephants are found in India and Nepal. At present, elephants are under constant threat due to the change of their habitat for agriculture, urbanization, and industrialization. As per the estimates of the Union Government's Project Elephant, the human-elephant conflict results in the death of over 100 elephants every year.ⁱⁱ

According to the data provided in the Rajya Sabha by the Ministry of Environment, Forest and Climate Change, between 2014-15 and 2018-19, 2,361 humans were killed as a result of conflict with elephants, while 510 elephants were killed in incidents of electrocution, train accidents, poaching and poisoning during the same period. Electrocution is the primary cause, accounting for nearly two-thirds of deaths (333 out of 510).ⁱⁱⁱ Increasing habitat loss and fragmentation of corridors used by animals for centuries are the two major causes of this conflict. Hence the elephants don't have the required space.

Farmers resort to all kinds of actions to drive away crop-raiding elephants. Beating drums, bursting crackers, erecting electric fences, and using spikes and fireballs are some of the commonly used means to deal with these elephants. However, things took an ugly turn when the villagers adopted so-called "food bombs" resulting in the brutal killing of a pregnant elephant in Palakkad district in Kerala on May 2, 2020. Here, the pineapples allegedly stuffed with explosives were used as a boobytrap to lure animals. There is little doubt that the average farmer is entirely dependent on his farming activities and cash crops are most essential for his earnings. At present, the most commonly used methods to check the infiltration of elephants, at the level of forest officials, in the fields are erecting watch towers and digging elephant-proof trenches. Besides that, indigenous methods like trip alarms, chilli tobacco ropes (the smoke burns the animal's eyes without causing any permanent harm), fences made from used CDs (the shiny surface works as a torch and acts as a psychological barrier), taped sounds of tigers and distressed elephants, are in vogue in different parts of the country. The burning of elephant's dung or sprinkling tiger urine to keep pachyderms away from the farmers' crops are also in practice. Not only this but also, the use of modern technology is also visible in this direction. For example, Mobile-based warning systems, thermal-detectors, and other sustainable solutions are being used in the forest areas. In West Bengal, forest officials are using thermal sensors and GPS collars to provide early warnings indicating the elephants' movement. In Assam, the hanging fences have been installed in place of conventional fences by the Wildlife Trust of India to keep elephants out of human habitat. In Karnataka, villagers are now operating LED boards that light up to alert people to indicate the presence of elephants within a kilometre.^{iv}

However, the government agencies have not come up with any scientifically viable solution to this nagging problem so far.

2. Big Cats

According to the Tiger Census of 2019, there are nearly 3000 tigers in India. This shows an increase from around 1,400 in 2006. According to a survey conducted by the Union Ministry of Environment, Forest and Climate Change whose report was released in the last week of July 2019, nearly a third of the country's 50 tiger reserves are approaching their peak carrying

capacity. This implies that nearly a third of the country's tigers currently live outside protected areas (PA). As a result, they come into proximity with human settlements resulting in the increasing human-animal conflicts in the last five years. Mahesh Sharma, the then Minister of Environment, Forest and Climate Change, stated in the Lok Sabha that more than 100 people were killed by tigers between 2015 and 2018.^v Facing the absence of the required number of prey, these animals, though reticent towards humans, begin to stalk farms and villages for livestock. Tigers are not attributed to a natural propensity to attack humans, even then the reports of attacking and killing humans are not uncommon.^{vi}

Traditionally Indians possess a more humane approach towards animals than many countries in the world. People have shared space with wildlife since ancient times. To cite an example, the Idu Mishmi community in Arunachal Pradesh's Dibang Valley considers tigers to be "big brothers" and hold that killing the big cat amounts to "homicide". According to their belief, this is a "unique conservation strategy", which helps the big cat population to thrive in the area

3. Nilgais (Blue bull) and Other Vermins

Nilgai remains one of the most complained against animal species especially in the Indo-Gangetic plains. Their presence in the fields out of forest areas in Bihar and Uttar Pradesh, in particular is a major cause of concern for the farmers. They appear in herds and damage the crops extensively. In 2016, the Ministry of Environment, Forest and Climate Change declared Nilgai vermin on account of the damage inflicted by them on life and property. The Ministry took this decision on a request by Bihar government for granting permission to exterminate Nilgai and wild pig. This notification of 1st December 2015, by the Ministry granted permission to cull or kill the Nilgai and wild pig for a year under Section 62 of the Wildlife (Protection) Act, 1972. This permission was accorded to three states of Uttarakhand, Bihar, and Himachal Pradesh for scientific management. The Ministry had also issued orders to kill elephants in West Bengal, monkeys in Himachal Pradesh, peacocks in Goa and wild boars in Maharashtra at different times.^{vii} Himachal Pradesh killed hundreds of rhesus macaques in 2007 and sterilized over 96,000 macaques since 2007.^{viii} Permission for culling of vermin is a temporary solution. Moreover, it raises concerns among the wildlife experts and animal welfare

activists, every time such permission is granted. So, we need a scientific strategy to deal with the problem.

The human-animal conflict is not just confined to the lands adjacent to forest areas or to the rural areas only. A significant departure is the menace of Nilgais which is clearly visible in the urban areas also. The Yamuna expressway from Greater Noida to Agra is dotted with numerous boards warning motorists that they are entering a "nilgai-prone area". This animal has caused many road accidents, some fatal. While this assertion is beyond doubt that there is an urgent need to protect our precious wildlife, at the same time the concerns of the farmers can't be wished away. A Committee headed by Dr. M.S. Swaminathan, a renowned agricultural scientist and visionary has opined in October 2006 that Wildlife laws must be relaxed as farmers are threatened by the increasing population of monkeys, wild boars and nilgais, which are "playing havoc with the agricultural and horticultural crops". The panel suggested monkeys should be declared "vermin" under the Wildlife Protection Act so that they could be culled. Presently, to save their crops, farmers often use brutal methods like fireworks, poison, and electrocuted fences.

STEPS NEED TO BE TAKEN TO MITIGATE THE PROBLEM

1. Currently, the farmers having fields nearby the forests resort to wire fencing and run electric current. That proves fatal for the wild animals. In this regard, the option of solar fencing is worth trying. Secondly, effective, and robust bio fencing may also serve the purpose.
2. As far as possible, no infrastructure projects should be allowed within any forest area, national parks, or sanctuaries. The running of electricity lines through electric poles inside the protected area will only invite death for the wild animals. Similarly, running of trains also spells disaster for them. Every effort should be made to avoid these issues in the interests of wild animals.
3. The establishment of corridors joining one forest area to another is a useful alternative. The wildlife experts, forest officials and the government machinery should sit together and devise appropriate means to achieve a breakthrough in this regard.

4. The problem of blue bull is very tricky. It carries religious overtones also. Once again, the experts in the field, farmers' representatives and the government officials should brainstorm and find a solution which is proving extremely harmful to the farmers. A consensus has to be evolved in any case.
5. The definition of Vermins needs to be revisited once again.

CONCLUSION

Since this human-animal conflict is steadily rising, it is necessary to strike the right balance between development needs and preservation of the natural world. There are ways to manage the crisis better. In this context, at the ground level some steps can be taken to ease the situation. For example, elevated roads can be constructed near wildlife corridors. Similarly, culverts can be developed to allow animals to cross busy railway lines and roads. Barriers can be erected along traffic corridors. Further, animal early warning systems can be deployed which can provide timely public information on presence and movements of species such as elephants to local people to facilitate precautionary measures. There is ample scope of housing improvements and provision of amenities, indoor toilets, and rural public bus services that may help reduce accidental human deaths. Moreover, improving livestock corrals can reduce livestock losses and carnivore incursion into villages. Better garbage disposal and avoiding deliberate or accidental feeding of animals reduces risks associated with wild animals like monkeys. However, on the macro-level, some more efforts are needed which include policy interventions. First, the monitoring and evaluation of human-wildlife conflicts and compilation of data on conflict situations and their causes and solutions, is most essential. Secondly, it is imperative on the part of government authorities to draw up research, planning and a long-term policy/management framework. Thirdly, it requires rethinking land use planning with enough space for humans and animals, buffer zones and wildlife corridors. Fourthly, strengthening community-based natural resource management. Fifthly, inclusion of communities in forest-based employment such as ecotourism. Sixthly, compensation for loss of lives, crops and livestock and its distribution should be ensured without corruption. Lastly, incentivizing States that manage their natural heritage better than others. Besides that, the States must also have rescue units and animal crisis centres, adequate forest professionals, veterinarians, and equipment. Moreover, the use of modern technology in mitigating the menace is always

welcome. The necessary amendments in the Wildlife Protection Act, 1972 should be carried out in right earnest. By adopting a holistic approach, we can find a solution to this vicious trend of human-animal conflict.

ENDNOTES

ⁱ Jayashree Nanda and Prayag Desai, Hindustan Times, Nov 6, 2018.

ⁱⁱ Tiasa Adhya, Conflict of diet, Down To Earth, 1-15 February 2019.

ⁱⁱⁱ 2,361 humans, 510 elephants killed in conflict in five years, The Indian Express, Feb 2, 2020.

^{iv} Himanshi Dhawan, From bees and chilli to tiger tapes, the tricks they try to keep elephants away, Sunday Times of India, Jun 7, 2020.

^v Editorial, The Indian Express, Jul 30, 2020.

^{vi} Ibid.

^{vii} Anubhuti Vishnoi, Nilgai's Journey From Antelope to Vermin Throws up Enough Muck, The Economic Times, Jun 10, 2016.

^{viii} T.R. Shankar Raman, The Hindu, Jun 17, 2016.