



The Issue of Man and Animal Conflict: A Case of Jhargram District, West Bengal

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Abstract— *Man-animal conflict is an ancient concept in which humans and wild animals share the same landscapes and resources for their survival. The study investigates the increasing frequency of conflict incidents between humans and animals in various locations within Jhargram District, a region known for its close proximity to both human settlements and wildlife, particularly elephants. Currently, human-animal conflict plays a significant role in altering the landscapes of the southern region of West Bengal in India, and it also has an impact on the rural economy in Jhargram District. Human population growth and expansion, deforestation, habitat degradation, land use change, and livestock grazing in forest and forest fringe areas are all considered major causes of human-animal conflicts. The study aims to pinpoint the underlying causes and repercussions of human-animal conflicts, as well as suggest management strategies to address the issue. The study reveals that people living in forest fringe areas and close to forest protected areas are often prone to attacks, particularly by elephants and other wild animals like hyenas, wild dogs, wild boars, etc.*

Keywords— *man-elephant conflict, forest fringe areas, wild animal, preventive measures.*



I. INTRODUCTION

Human-animal conflict raises issues of interaction between animals and humans, results in adverse impacts on humans or their lives and livelihoods, and also poses a threat to wild animals or their habitat. Most incidents of human attack and death by wild animals, particularly elephants, have occurred in the Jhargram block's forests and forest fringe villages. Nowadays, it is a very common phenomenon in the southern part of West Bengal. Human-elephant conflict negatively affects the physical and economic well-being of rural communities, resulting in damage to crops, livestock, and property, as well as causing human injury and death. The majority of attack-related killings and injuries occur primarily among loners or male elephants.

Human-animal conflict has become a significant concern in Jhargram's study area, primarily involving men and elephants, with wild boar attacks contributing to some of these incidents. By studying the nature of elephant behaviour, it was found that elephants seem to feed in the forest during the day. However, researchers discovered that the herd of elephants attacks both agricultural fields and

human habitations at night, all in pursuit of sustenance. They also attack village houses in search of food, primarily for stored paddy, causing heavy shock, dismay, and destruction of habitation and resources among the occupants. Occasionally, elephant attacks in the study area result in human deaths (Rohini, Aravindan, & Das, 2015; Panja et al., 2018).

During the paddy harvesting season, elephant herds attacked the agricultural field, causing 90% of the damage. Elephants enjoy eating paddy just before and during the harvesting period. Elephants are more likely to raid crops in forest fringe areas than those farther away. Research on elephant behavior changes has revealed that elephant herds have expanded their habitat from within forests to outside forests. They have also shifted their diet from agricultural crops such as paddy and wheat to more palatable and juicy horticultural crops such as cucurbits, cabbage, cauliflower, potatoes, brinjal, and jackfruit. These are commercial cash crops that significantly contribute to the local villager's economy (Lahiri-Chowdhury, 1999; Kulandaivel, 2010; Santiapillai & Read, 2010). Elephants inflict severe damage

on food and cash crops, significantly impacting the livelihoods of rural farmers. Several authors have well documented the fact that elephants frequently damage crops during the three cropping seasons, namely January to April, May to August, and September to December (Singh and Chowdhury, 2002; Choudhury, 2004). Elephants eat 10% of their bodyweight each day, which for adults is between 170-200 kg and requires 80-200 litres of water for drinking and bathing purposes. The migratory elephant herd consisted of 36 individuals, consisting of 6 adult tuskers, 14 adult females, 4 sub-adult male tuskers, 5 sub-adult females, 5 juveniles, and 2 calves. Four sub-groups, namely Jhargram, Ajodhya hill, Banspahari-Belpahari, and east of Kangsabati, comprised the residential populations (Singh et al., 2002; Chanda, 1996).

II. DISCUSSION

Causes of Man-Animal Conflict

Wild elephants raid crops in the forest fringe villages, a practice that impacts the impoverished people of Jhargram, who dedicate most of their physical energy to the agricultural land to sustain their livelihood. Paddy is the only crop cultivated in the area, including Amon, Aus, and Boro. Among them, Amon Paddy takes the dominant part. It is a Kharif crop that is sown during the monsoon season and harvested in the early winter. This rainfall dependency states that lack of agricultural facilities in the area and dependence on monsoon rainfall have led the farmers to practice monoculture of the main food crop for sustenance. The elephants not only destroyed the farmers' crops, but also their homes. The movement of the elephant led to extensive damage to crops, houses, and other properties. Many farmers have even left their land without cultivation to avoid damage by elephants, and sometimes the villagers harvest their crops prematurely. Migratory elephants are moving from the Dalma Forest range of Jharkhand and entering the dense Sal Forest of West Bengal from various parts of Bankura and Jhargram district, particularly Vulaveda, Silda, Banhshpahari, Belpahari, Jambabi Binpur, and Gopiballavpur. This migration is causing significant damage to agricultural fields, stored crops, and village houses. Cultivators are facing significant challenges in preserving their crops to sustain their primary source of income.

During the elephant movement in the forest, villagers have completely stopped their collecting activities. So, the production and marketing systems have gradually decreased, which has impacted or reduced the household income level of the poor farmers affected by this effect. Most of the villagers are primarily collecting various forest products from deep Sal Forest, either to meet their domestic needs or to sell these products for profit. At times, they

encounter grave issues, such as severe injuries and even fatalities due to attacks by elephants.

The growing population has resulted in the emergence of numerous human settlements near the boundaries of protected forest ranges, as well as the encroachment of local people into the forest lands to cultivate agricultural crops and vegetables, harvest baboi grass, and gather food and fodder. This increased pressure on the very limited natural resources in the forests.

Currently, urbanisation and industrialisation are causing deforestation, leading to the conversion of forest land into non-forest land. This has resulted in a reduction of natural wildlife habitat, rendering the landscape unsuitable for wild animals due to their unfulfilled needs. As a result, animals are straying out of their territory in search of water or food, bringing them into conflict with humans.

Man-animal conflicts have escalated due to livestock grazing in forest regions, as the attraction of carnivorous animals to simple prey has made them direct adversaries of humans. The lack of food for wild herbivores has driven livestock to graze, forcing them to compete with other animals for food.

Currently, the increasing demand for food is leading to a rapid conversion of forest lands into agricultural land for development. Moreover, the clearing of forests for mining and formative exercises results in environmental infringement and the destruction of natural life. This results in herbivores straying out of the woodland, which in turn leads to crop theft.

Animals have recently died or suffered injuries in accidents on road and railway tracks due to the development of roadways and railways and the increase in the number of vehicles passing through forest areas.

The most dangerous aspect of forest fires is that they spread quickly and wipe out critical habitats and animals trapped in their path; the impacts can be life-threatening. Forest fires can travel 10 kilometers (6 miles) per hour through a forest. Loss of habitat greatly impacts all animals. Wildfires especially threaten species that annually return to the same breeding grounds and nesting sites. Wildfires often destroy or contaminate food sources, forcing wildlife to venture into new territories beyond their home range. As the animals travel in search of food and habitat, they are at risk of additional threats, such as vehicle strikes, attacks from domestic pets, and new predators.

Vegetation is a primary source of ecosystem production; it controls gas exchange with the atmosphere and plays an important role in the biocycles of both water and nutrients within the ecosystem. The individual vegetation layers comprise an important feature of the overall biodiversity of forest ecosystems. Their composition, diversity, and structure constitute both important factors in the assessment

of their biodiversity and important bioindicators of environmental changes. Phenomena like droughts, wildfires, heatwaves, intense storms, ocean acidification, and rising sea levels directly lead to habitat destruction.

Major Consequences

Human-wildlife clashes are particularly serious in the tropics and developing countries, where livestock holdings and agricultural practices play a significant role in livelihood options and income for people living in rural areas, the consequences of human-wildlife clashes are particularly serious. In the case of the elephant attack, the migratory elephant herd, consisting of 60–90 elephants, originates from the Dalma range, along with another residential herd of 23–24 elephants. Each year, these migratory elephant herds inflict damage on agricultural crops, resulting in the deaths of 12–15 people in the study area. People living in close forest areas and buffer ranges and buffer zones of the forest are identified as the most risk prone zones for man-and-animal conflict, where attacking incidents were caused by carnivores that strayed out of forest zones in search of food. Wild animals, particularly migratory wild elephants, and less frequently wild boars, can depredate crops, leading to a complete loss of income for a rustic household and jeopardizing their food security. Carnivores killing livestock in forest fringe villages can destroy the source of income for families who rely solely on the development, cultivation, and rearing of domestic animals at their village house. The incident of killing cattle herd by the carnivore animal or predators can impact heavily on the villagers' life and livelihood of the forest fringe areas.

Preventive Measures

Man-animal conflict has devastating consequences, not only for humanity and society, but also for the natural world. Man-animal conflict disrupts regular activities such as nighttime walking, and instils fear of harm or death. Protecting crops and property requires significant efforts. Even though we cannot completely eradicate man-animal conflict, we can significantly reduce and control it if we sincerely implement a few measures.

- We must halt the poaching of wild animals to stabilize their population and preserve the balance between prey and predators in the forest ecosystem. The administration and regulations aim to prevent the poaching of hundreds of small creatures, such as screen reptiles, rabbits, lizards, wild bores, birds, and others, during the annual tribal celebrations throughout South Bengal.
- Natural life passages will provide a secure pathway for animals in human inhabited areas. This prevents road kills and controls animal escape from humans. This way, it will avoid the man-

animal conflict. Awareness programmes to sensitise the villagers and maintain the rules and regulations of the forest land can minimise clashes between man and animal.

- Stone, electric, thorned wire, brick dividers, trenches, or solar fencing can secure agricultural land in the forest fringe regions. The neighbourhood community will cooperate in implementing ecological development in the protected areas, while the forest office and administration can manage conflicts.
- Eco-tourism in forest areas can provide an additional source of income for local residents and stimulate the local economy, thereby reducing human-animal conflict and incidents of poaching and killing of wild animals.
- Use of modern technology like GPS, high-frequency radio collars, miniaturised scale chipping, trackers, alarms, programmed warm lighting in animal routes, etc. can offer assistance in tracking the movement of wild animals and alerting the neighbourhood populace.
- A community-based approach, such as joint forest management, is the government's key management strategy for protecting both humans and animals. Another widely acknowledged arrangement is to provide compensation or protection for animal-induced harm. The government must provide protections and preventive measures for the administrative staff.

III. CONCLUSION

Conflicts between humans and animals, especially those involving elephants, pose a significant issue in the Jhargram District study area. The Joint Forest Management Committee and the Forest Protection Committee, through various field-based activities, can control harm or loss to both people and human property, as well as to wild animals, by preventing them from entering inhabited areas. The shrinkage, fracture, and disintegration of forest areas, along with the increasing number of wild animals, lead to an increase in man-animal conflict. However, we can reduce this conflict by implementing social awareness programs and enforcing laws and rules that reduce human-wild animal conflict in the forest fringe areas.

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