



A STUDY OF HUMAN-WILDLIFE CONFLICT IN TADOBA-ANDHARI TIGER RESERVE

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Abstract:

Human-Wildlife conflict has a long history. In the early days of human evolution, conflict between humans and wildlife was an integral part of evolution. There has been a huge conflict between humans and other animals to maintain the existence of their own species. In modern times, a large number of national parks and sanctuaries have been created all over the world to protect wildlife. Due to this, wild animals were protected in parks and sanctuaries and their numbers increased. This seems to have sparked a new Human-Wildlife conflict.

Tadoba Andhari Tiger Reserve (TATR) in Maharashtra, India, is one of the most biodiverse and tiger-rich landscapes in the country. However, increasing Human-Wildlife conflict, particularly involving tigers, leopards, and sloth bears, has become a serious conservation and socio-economic challenge in the region. This study examines the patterns, causes, and implications of Human-Wildlife conflict in and around TATR. Notably, Chandrapur district alone accounts for a disproportionate share of conflict-related deaths in Maharashtra. The study also evaluates the effectiveness of current mitigation measures, including compensation schemes, and awareness programs.

Keywords: Human-Wildlife Conflict, Conservation, socio-economic Challenges, mitigation

Introduction:

Human-Wildlife conflict is a serious global threat to sustainable development, food security and conservation in rural and urban areas. In

general, human-wildlife conflict results in crop losses, reduced agricultural productivity, competition for pastures and water resources, loss of livestock, injury and death to farmers, damage to infrastructure and increased risk of disease transmission between wildlife and livestock.¹

The World Wildlife Fund for Nature (WWF) defines human-wildlife conflict as "any interaction between humans and wildlife that has a negative impact on the social, economic or cultural well-being of humans, on wildlife conservation or on the environment."²

There are various forms of Human-Wildlife conflict. Sometimes human behavior creates obstacles in the safety and survival of wildlife, and sometimes the movements of wildlife threaten human life. Due to increasing population and increasing biodiversity, the interaction between humans and wildlife is increasing day by day. Attacks by poachers in Africa, attacks between tigers in Asia and people and their livestock, and the expulsion of tigers from the forest after the loss of lives of humans and animals in such attacks have increased. Non-life-threatening conflicts are also seen on the rise. In this, incidents of large-scale destruction of crops by elephants are increasing.³ Also, the number of attacks on

¹" Wildlife and Protected area management - Human and wildlife conflict", <http://www.fao.org/forestry/wildlife/67288/en>

²"Human wildlife conflict manual.", Harare, Zimbabwe, WWF Southern African Regional Programme Office (SARPO) (2005).

³Desai, Ajay A., Heidi S. Riddle. " Human- elephant conflict in Asia." Supported by : US Fish and Wildlife Service Asian Elephant Support (2015): 10-12.

crops in rural and urban areas by macaques has also increased.⁴

The situation of Human-Wildlife conflict in India is very serious. According to a news report given by the news channel NDTV India on August 1, 2017, one person is being killed in attacks by tigers and elephants every day in India. According to the data of the Ministry of Environment, 1,144 citizens have been killed in 1,143 days from April 2014 to May 2017. During the same period, 345 tigers and 84 elephants have died, most of which are due to attacks by poachers. This is resulting in loss of life for both humans and wildlife.

Incidents of Human-Wildlife conflict are also seen frequently in TadobaAndhari Tiger Reserve. Rehabilitation of 6 villages in the core area of TadobaAndhari Tiger Reserve is underway. But incidents of human-wildlife conflict continue in 79 villages in the buffer area. Also, Chandrapur is a city with a population of about 4 lakhs near Tadoba. Here too, tigers, leopards, bears etc. are often seen roaming around.

Methodology:

This study is based on Primary and Secondary Data. The data regarding Human Wildlife conflict incidents and compensations collected from Core and Buffer Zone office of TadobaAndhari Tiger Reserve. Some Interviews of local in and around buffer zone taken by researcher. Chart and graphs are prepared to show the data.

Study Area:

The Tadoba-Andhari Tiger Reserve is located in the eastern district of Chandrapur in Maharashtra. 20° 4' 53" North to 20° 25' 51" North Latitude and 79° 13' 13" East to 79° 33' 34" East Longitude. The Reserve will be extended to 1727.17 sq.km. is spread across the area. This includes 625.40 sq. km. of core zone and 1101.77 as the buffer zone.

On April 9,1955, Tadoba National Park was formally created enclosing an area of 116.55 sq. km. area. Also on 25/02/1986, Andhari Wildlife Sanctuary had been established in 508.85 sq.km. area. The TadobaAndhari Tiger Reserve

came into existence in 625.40 sq. Km. area on 27/12/2007 by merging Tadoba National Park and Andhari Wildlife Sanctuary on 23/02/1995 (116.55 + 508.85 = 625.40), both Tadoba National Park and Andhari Wildlife Sanctuary were declared as Core or Critical Tiger Habitat. Then after on 5/5/2010 1101.77 sq. km. area was declared a buffer zone around Tadoba-Andhari Tiger Reserve. It covers a total of 79 villages.

⁴Priston, Nancy EC, Matthew R. McLennan. " Managing Humans, Managing macaques: Human macaque conflict in Asia and Africa." In Macaque connection, pp. 225- 250, Springer, New York, 2013.

Results and Discussion:**Table 1: People killed and injured in human-wildlife conflicts in TadobaAndhari Tiger Reserve (Buffer) (including compensation amount)**

Year	Number of people killed	Compensation amount	Number of people injured	Compensation amount
2012-13	1	200000	27	783788
2013-14	3	1500000	6	313335
2014-15	1	500000	10	611747
2015-16	1	500000	10	514160
2016-17	6	4800000	8	611782
2017-18	1	800000	11	409310
2018-19	8	10100000	17	783183
Total	21	18400000	89	4027305

(Source: Office of the Buffer Zone, TadobaAndhari Tiger Reserve)

From the above statistics, it can be seen that in the 7 years from 2012-13 to 2018-19, a total of 110 incidents of human-wildlife conflict occurred, in which 21 civilians died and 89 were seriously injured. This figure is of those eligible for compensation as per the government norms. However, it is noticeable that more incidents have occurred when you actually visit the villages in the buffer zone. Compensation has been given to the family of each deceased person. Till 2012-13, the compensation amount was Rs. 2,00,000 per deceased person. From

2013-14, it was increased to Rs. 5,00,000. In 2016-17, it was further increased to Rs. 8,00,000. However, since many of the people who lost their lives were heads of families, the government has increased the compensation amount to Rs. 15 lakh per person from 2018-19. However, the amount received by the injured persons is very small. Many people injured in tiger attacks have suffered permanent disabilities. The government needs to pay special attention to them

Table 2: People killed and injured in human-wildlife conflicts in TadobaAndhari Tiger Reserve (Core) (including compensation amount)

Year	Number of people killed	Compensation amount	Number of people injured	Compensation amount
2012-13	Nil	Nil	1	50000
2013-14	1	30000	1	100000
2014-15	Nil	Nil	Nil	Nil
2015-16	1	500000	2	100000
2016-17	Nil	Nil	1	Nil
2017-18	1	800000	Nil	Nil
2018-19	1	Nil	Nil	Nil
Total	4	1330000	5	250000

(Source: Office of the Core Zone, TadobaAndhari Tiger Reserve)

If we look at the statistics of human-wildlife conflict deaths and injuries in the Tadoba-Andhari Tiger Reserve, it is seen that there are fewer human-wildlife conflict incidents in the core area than in the buffer area. This is because no person can enter the core areas without a

permit. Also, if a person who enters without a permit dies due to human-wildlife conflict, he is not entitled to any compensation. If we look at the statistics from 2012-13 to 2018-19, we see that there were only 4 deaths and 5 injuries.

Table 3: Cattle killed and injured in human-wildlife conflicts in TadobaAndhari Tiger Reserve (Buffer) (including compensation amount)

Year	Number of Cattle killed	Compensation amount	Number of Cattle injured	Compensation amount
2012-13	596	4093543	5	4600
2013-14	505	4131122	1	1000
2014-15	329	2615100	2	1969

2015-16	681	5095928	14	12947
2016-17	452	3521787	4	4681
2017-18	460	5245137	3	10029
2018-19	540	6669810	9	10868
Total	3571	31372427	38	46094

(Source: Office of the Buffer Zone, TadobaAndhari Tiger Reserve)

The number of animals killed in human-wildlife conflicts in the Tadoba-Andhari Tiger Reserve is 3571 animals killed and 38 injured in the 7 years from 2012-13 to 2018-19. This number is likely to be much higher. Because many times, some incidents are not registered with the government on the pretext that they do not fit the government criteria. Many times, the remains of animals injured in tiger attacks are not found. Sometimes, incidents of minor injuries in a herd of pigs are not accepted. This information is given by the villagers during a

personal visit. The number of dead animals is large, including dairy cattle and bulls used in agriculture. Considering their market value, the amount of compensation received from the government is very low. If we take the average of the amount distributed between 2012-13 and 2018-19, it comes to Rs 8785.33 per dead animal. Due to this, farmers in the buffer zone and other villages adjacent to the TadobaAndhari Tiger Reserve are facing huge financial losses.

Table 4: Cattle killed and injured in human-wildlife conflicts in TadobaAndhari Tiger Reserve (Core) (including compensation amount)

Year	Number of Cattle killed	Compensation amount	Number of Cattle injured	Compensation amount
2016-17	22	195125	Nil	Nil
2017-18	26	379750	Nil	Nil
2018-19	34	18000	4	Nil
Total	82	532875	4	Nil

(Source: Office of the Core Zone, TadobaAndhari Tiger Reserve)

Since it is prohibited to take animals for grazing in the core area of the Tadoba-Andhari Tiger Reserve, in many cases, even if the animals die or are injured, they are not given any compensation. If such an incident occurs outside the core area, the case is considered eligible for compensation and some compensation is given. Considering the above statistics, it is seen that a total of 22 animals died in the year 2016-17. While in 2017-18, 26 animals died. In 2018-19, a total of 34 animals died. Many of these cases are not eligible for

compensation. Also, looking at the statistics of the last three years, there was no incident of animal injury between 2016-17 and 2017-18. There were 4 incidents in 2018-19. Thus, in fact, animals are not allowed to be taken in the core area. If it is found that animals have come to the core area for grazing, a case can be registered against the owner of the animal concerned. Therefore, many times, even if animals are injured in wildlife conflicts, no effort is made to register the case with the forest department.

Table 5: Crop damage incidents caused by wild animals in TadobaAndhari Tiger Reserve (buffer) (including compensation amount)

Year	Number of Cattle killed	Compensation amount
2012-13	216	644979
2013-14	189	802180
2014-15	201	718923
2015-16	1403	5592462
2016-17	557	2742371
2017-18	768	3092274
2018-19	492	1640769
Total	3826	15233958

(Source: Office of the Buffer Zone, TadobaAndhari Tiger Reserve)

In the buffer zones of TadobaAndhari Tiger Reserve and other nearby villages, incidents of crop damage due to wild animals are becoming very serious. Herds of animals like pigs, deer, wild boars, sambars etc. enter the fields at night and damage agricultural crops on a large scale. According to the above government statistics, 3826 incidents of crop damage have occurred in the 7 years from 2012-13 to 2018-19. The government is also seen to be very indifferent regarding crop damage compensation. The government has no concrete policy regarding crop damage compensation. Farmers in the buffer zone and other villages also say that the method of determining crop damage is also wrong.

Conclusion and Suggestions:

Incidents caused by human-wildlife conflict occur when wild animals escape from the forest. Also, many incidents occur when people go into the forest to fetch firewood, collect wild fruits, and collect tendu leaves. Farmers often face attacks from wild animals while working in fields adjacent to the forest. Therefore, it is necessary to take effective measures at the government level, such as providing fuel facilities, creating alternative employment, etc., to reduce human activity in the forest while providing wildlife with their rightful habitat.

“It is not possible to completely stop the incidents of human wildlife conflict. Efforts are being made to reduce it”. This was stated by the then Principal Conservator of Forests (Wildlife) of Maharashtra State in 2014. Based on this, we need to think about how human wildlife conflict will continue and how we can reduce the negative impact of this interaction. For this, efforts based on the principle of participation are needed, which are very informed from

social, cultural and economic perspectives, seriously considering the resource availability and based on the principle of participation, while combining human wildlife conflict reduction and forest conservation. In order to reduce human wildlife conflict in TadobaAndhari Tiger Reserve, there is a need to consider many things such as increasing forest corridors, stopping human movement in the forest, providing water in the forest in summer, etc.

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