



UNDERSTANDING AND MITIGATING HUMAN WILDLIFE CONFLICT WITH REFERENCE TO THE FOREST BORDERING VILLAGES OF WAYANAD DISTRICT OF KERALA

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ABSTRACT

Human-wildlife conflict occurs with various negative results. The major outcomes of human-wildlife conflict are Injury and loss of life of humans and wildlife, Crop damage, livestock depredation. The conflict that takes many forms ranging from loss of life or injury to humans, and animals both wild and domesticated, to competition for scarce resources to loss and degradation of habitat. The study carried out in Noolpuzha, Nenmeni Gramapanchayths of Wayanad District. Both GPs are sharing their boundaries with forest and plenty of tribal hamlets are included in the forest boundaries. Thottamoola, Nenmenikunnu, Muthanga, Pazhoor, Valluvady, Vadakkanadu are the specific villages where researcher met people who specified issues of conflict with wildlife. 20 farmers from both GPs were selected randomly as source of data in focused group discussion with 17 questions. Priorities were given to the male family head because of the nature of the issue and the experiences. Collected data were analyzed and interpreted. Development is not possible without considering farmers and competent Government bodies should address their issues in time. It is also very important that we protect our wild life, since they are real expressions of the abundant nature.

KEYWORDS: *Wildlife, Human-being, Conflict, Development*

BACKGROUND OF THE STUDY

Wayanad is famous for its nature especially Wildlife Sanctuary, landscapes with different crops such as tea, coffee, spices and salubrious climate. Wayanad Wildlife Sanctuary is the second largest wildlife sanctuary in Kerala, blessed with fertile green forests and affluent wildlife. This wildlife area houses some of the rare and endangered species of both flora and fauna. Agriculture is the main source of income for majority of the inmates. Coexistence with wildlife has been the secret of forest dwelling communities of Wayanad for centuries, enabling them to have a sustainable living. Kattunayka, Paniya, Kurichya and Kuruma tribes are most prominent among them. During 1940s settlers from Travancore reached in this land, started cultivating different crops in virgin forest land. They brought developments and cultivated cash, food crops and gave daily wage labour to the tribals to work in their fields. At the same time, the forest land skewed due to encroachment and expansion of cultivable land and settlements within the jurisdiction of forests and it became a threat to the wildlife.

In present scenario, the conflict between human and wildlife is very common. Elephant attacks are widespread

and destructive; however, deers, wild pigs, monkeys, tigers, Malabar squirrels, leopards etc are making heavy loss to the farming folks and natives either by crop/ livestock damage or by human death or injuries. According to the wild life experts and officials, the influx of animals from Mudumalai Tiger Reserve, Nagarhole and from Bandipur National Park is a real matter to be considered. Intense summer and repeated wild fire in these neighboring forests created a large number of migrations of animals and eventually that will increase man animal conflict at Wayanad. Invasive plants are also destroying the natural habitats of forest. Wayanad has the largest population of tigers and as per, Tigers in India report 2017, Wayanad sanctuary consist of 76 tigers, Which means territorial problems will lead them to enter in to villages.

National Tiger Conservation Authority (NTCA) explains that a territorial animal like a male tiger needs an area of 60-100 sq km. But the area allocated to an entire tiger reserve at Wayanad wild life sanctuary is not enough for 76 tigers. Similar, in the case for elephants, the elephants need to travel at least 10-20 km a day. If a herd is restricted to an area of about 100 sq km, they are bound to move out in search of food and water. Elephants are used to travelling long distances, most of

which fall outside the protected areas. Wildlife experts' claim that territorial animals do not have enough space within reserves and their prey do not have enough fodder to thrive on. This is forcing the wild animals to move out and venture close to human habitation in search of food.

REVIEW OF LITERATURE

Human Wildlife Conflict is emerging as a significant wildlife management issue. The conflict results in severe impacts on communities in the form of crop depredation, property damage, loss of livestock, human injury and human killing. Although a lot of studies have been done worldwide (Distefano, 2008) but such studies are limited in country. Makindi et.al. (2014) carried out the study on conflicts between people and wildlife currently rank amongst the main threats to conservation in Africa. The study reveals that to enhance and sustain coexistence between people and wild animals. It is undoubtedly evident that the expansion of the human society has forced people to infringe on wildlife habitats and convert land to other uses incompatible with wildlife. The study emphasizes an understanding of how the people and conservation agents deal with the problem of wild animals is critical in evolving and establishing sustainable conservation systems. The study suggested that the need to address the issue of human-wildlife conflict in the context of sustainable conservation practice through a combination of indigenous and conventional rationales to demonstrate that wildlife can co-exist with people.

Sethy and Mardaraj (2015) analyzed the Human-wildlife conflict issues and managements in the country. The study reveals that is fast becoming a critical threat to the survival of many globally endangered species, in particular to large and rare mammals such as the Sumatran tiger the Asian lion but also to less endangered species such as the snow leopard and the Red colobus monkey. The study emphasizes on an international problem involving all eight species of bears across much of Europe, Asia, North America and the South American Andes including India. The study concluded with suggested that the numerous cases from countries all over the world demonstrate the severity and suggest that an in-depth analysis is essential to understand the problem and support the conservation prospects of threatened and potentially endangered species.

Aditi et.al. (2017) examined on analysis of human-wildlife conflict management in India. The study revealed that the interaction between wild animals and people and the resultant negative impact on people or their resources, or wild animals or their habitat in surround of forest. The study emphasizes on the occurrence of human-wildlife conflict, when growing human populations overlap with established wildlife territory, creating reduction of resources or life to some people and/or wild animals. The study also stated that the conflict that takes many forms ranging from loss of life or injury to humans, and animals both wild and domesticated, to competition for scarce resources to loss and degradation of habitat. People lose their crops, livestock, property, and sometimes their lives. The study concluded that the animals, many of which are already threatened or endangered, are often killed in retaliation or to 'prevent' future conflicts. It is one of the main threats to the continued survival of many species in different parts of the world, and is also a significant threat to local human populations.

OBJECTIVES OF THE STUDY

- To study the depth of the conflict at farming levels.
- To know the type of impacts and damages.
- To collect opinions from villagers to propose remedial measures .
- To identify the policy level implications and problems.

RESEARCH METHODOLOGY

The study carried out in Noolpuzha, Nenmeni Gramapanchayths of Wayanad District. Both GPs are sharing their boundaries with forest and plenty of tribal hamlets are included in the forest boundaries. Thottamoola, Nenmenikunnu, Muthanga, Pazhoor, Valluvady, Vadakkanadu are the specific villages where researcher met people who specify issues of conflict with wildlife. Another important aspect is that both villages are in continuous struggle to keep the animals away from their fields. Night patrolling, electrified fencing, making trenches and barriers, vigilance etc are active in this region however, the conflict is a never ending process and a headache to both forest officials and villagers. 20 farmers from both GPs were selected randomly as source of data in focused group discussion with 17 questions. Priorities were given to the male family head because of the nature of the issue. Collected data were analyzed and interpreted. Secondary data were collected from various sources like news articles, books, journals and details published in different public websites and so on so forth.

SIGNIFICANCE OF THE STUDY

Majority of the villagers are under serious threat of wild animals especially those who have farms close to the sanctuaries. There were 52 deaths of human reported due to wild animal attack whereas 13 happened from north Wayanad division, 22 from south Wayanad division and 17 from Wayanad sanctuary. 35794 applications were received from farmers to compensate the crop loss and Rs. 20.7 crores were distributed with respect to that. There were many incidents of injuries due to animal attacks and most of them are not in a position to work in their fields anymore. People say that they feel like living in an open Zoo and anything can happen at any-time. Responsible government and authorities are not giving any protection to their lives and properties and they don't feel the right to live in their birth place. They feel that this is against their right to live. Many farmers are having bank loans and they feel disappointed because of each and every attack on their crops pending the loan payment and the huge accumulation of interest.

Farmers argue that the compensation for crop loss is very nominal. For example, A coconut tree can give an income of Rs.3000 per year and the same palm tree will give a good yield for another 75 years. However, if a wild animal destroys a coconut palm with fruits, eligibility of compensation is stipulated to Rs.770 and for young palm tree without fruits will have a compensation of Rs.375. In case of paddy cultivation, 1hector paddy cultivation costs about Rs.77000 whereas the compensation is just Rs.11000. Compensation for other crops are also very low i.e., Banana plants Rs.110,arecanut tree Rs.165,coffee plants Rs.110 and there should be a loss of minimum of 10 cents of cultivation is another condition that determines the eligibility of compensation. Agriculture department won't cover any compensation unless there is no insurance coverage and the farmer should produce many documents to cover up the crop

loss application which is always a tedious job. Those who cultivate in lease lands are not getting any compensation because of the documentations and ownership issues. When looking in to the issues, there should be a holistic approach that can only bring about sustainability to both human and wildlife. Both are integral part of civilization and harmonious coexistence should be defined and actualized. This study often

shares the various aspects of crisis that can reflect thoughts and actions for better situation. Forest department, local government, political parties, farmers, agriculture department, revenue department, civil society organizations etc are the key organizations to sit together and sort out the issue. International models to solve this issue should be taken in to consideration with local considerations.

RESULTS AND DISCUSSIONS

Researcher recorded the data provided by villagers and explained below.

Table No. 1: Showing the

Sl. No.	Questions	Response	N: 40	%
1	Are you happy to live in the forest neighborhood now?	Yes	3	7.5
		No	37	92.5
		Not Known	-	-
2	Do you ever face crop loss because of the wild animal in multiple times?	Yes	40	100
		No	-	-
		Not Known	-	-
3	Do you think that the human wild animal conflict increased compared to last decades?	Yes	37	92.5
		No	-	-
		Not Known	3	7.5
4	Did you receive compensation from forest department or agriculture department on crop loss?	Yes	40	100
		No	-	-
		Not Known	-	-
5	Was that compensation sufficient to compensate your loss?	Yes	-	-
		No	40	100
		Not Known	-	-
6	Are you satisfied with the procedures of forest department to assess the loss and determine the compensation amount?	Yes	-	-
		No	40	100
		Not Known	-	-
7	Are you satisfied with the efforts of forest department to protect the village from wild animal entry?	Yes	4	10
		No	36	90
		Not Known	-	-
8	Are you restless and anxious every night due to movement of wild animal in your neighborhood?	Yes	39	97.5
		No	1	2.5
		Not Known	-	-

Majority of the respondents had the opinion that they are not at all happy to be in the neighborhood of the forest. Animal attack on human as well as to crops has been increased day by day and they feel that they lost their peace of mind and well being. All the respondents were victims of wild attack for multiple times. Majority of them shared that they see group of wild boars and deer's at their fields and neighborhoods on regular basis. Majority of the respondents had the view that wild animal attack increased compared to the earlier days of settlement. During their childhood, they were safe and they never saw wildlife near to their village. They also shared that the number of wild animals increased considerably and their food shortage in forest is the major reason that they approach village fields. Mono-cropping systems in forest such as teak plantation, invasive Cenna plants, eucalyptus etc destroyed the habitat of many animals. Every respondent shared that they had compensation due to crop loss and in multiple times. They received it either from forest or agriculture department. But all of them shared that their loss is not compatible with the compensation. Many of them shared that "losing cultivation is almost like losing 10 years of hardwork and progress." All of them had the opinion that the compensation is not matching to their loss. They

have shared an example that A coconut tree with bunches of coconut can give around Rs.2.5Lakhs in its life span but the compensation for the same coconut tree is just Rs.750 and there is a clause that there must be minimum of 10 cents of destruction. All the respondents had the view that the loss determination and assessment are not realistic and appropriate. The amount of compensation is too low and the time to process the compensation up to time of releasing the financial assistance to the bank account of the farmer is not stipulated. Majority of the respondents were not satisfied about the efforts of forest guards. They accuse that if they make real efforts to keep the animals in forest, the crop loss will never happen. Their apathy, incompetency and unscientific efforts often lead to the issues. They shared that due to the apathy of forest guards, we lost many of our efforts and we are not happy to collaborate with them anymore. Majority of the respondents have shared that they sleep very little because of worrying about the animal and the crop loss. They also feel fear of attack during dark hours and early mornings. They shared that it increased their anxiety and general health. So they propose the care and protection of the forest department through patrolling in a systematic way.

Table No. 2: Showing the

Sl. No.	Questions	Response	N:	%
1	Do you feel safety for your family because of the presence of animals?	Yes	-	-
		No	40	100
		Not Known	-	-
2	Did any livestock attack or cattle lifting happened to you?	Yes	19	47.5
		No	21	52.5
		Not Known	-	-
3	Did you or your family member ever had an encounter with wild animal and got injured?	Yes	16	40
		No	24	60
		Not Known	-	-
4	Do you think that your development in agriculture is declining because of the wild animal attack?	Yes	40	100
		No	-	-
		Not Known	-	-
5	Are you witnessing the attack frequently?	Yes	31	77.5
		No	-	-
		Not Known	9	22.5
6	Have you notice that the mitigation measures are not productive?	Yes	40	100
		No	-	-
		Not Known	-	-

All respondents are worried about the family members' safety during day and night. They witnessed animal movement's especially dangerous animals in their area. Leopard, tiger, elephant etc are nightmares to women and children and they have problems with animal ticks as well. 19 respondents out of 40 lost their livestock due to attack of big cats, wolves and elephants. Cattles, calves, goats and dogs were attacked and been killed by them. This happened during day time grazing and also from cattle sheds. Majority of the respondents never had any close encounter with any wild animal but they have shared that they chased animals away from their village and that efforts gave some injuries to most of them. They recollected their terrible days because of two killer elephants named Vadakkanadu Komban and Kalloor komban. 16 respondents shared that they are victims of animal attack and they had severe injuries and affected their daily life and income generation. Most of them were attacked by elephants and wild boar and few of them suffer permanent physical challenges. All the respondents shared that they

reduced their cultivation and not at all interested to invest again in farming. All are facing severe threat to their major crops and their conflict with animal increased enormously. Fruits, tubers, vegetables, grains etc are inviting wild animals and very often and that not only destroy the crops but also create threat to the lives of human. Majority shared that they face the wild animal threat frequently. Some harvesting seasons are real problematic especially when jackfruits and mango ripening time. Elephants used to travel from long distance and reaches to farms to eat fruits. So the farmers remove and destroy the fruits before ripening. All the respondents shared in one voice that the efforts from forest department are not competent enough. They really feel that patrolling, trenching, fencing, close monitoring etc has to be done systematically and with results. They mentioned examples such as, if a forest guard is not identifying the leveled trenches by elephant or wild boar that will become a route for the entire animal. If they failed to operate the solar fencing in time and without any interruptions, it is useless. Forest officials are helpless to do anything with most of the wild tuskers.

Table No. 3: Showing what your priorities are/ranking to solve the human animal conflict?

Sl. No.	Priority action	Rank
1	Construction of unbreakable fence, trench with solar powered electric shocks	I
2	Ensuring food and water to wildlife at forest especially at summer	II
3	Translocation of dangerous elephants and other animals	VI
4	Controlling the birth rate of deers and wild boars	III
5	Strengthening the guarding with alerting facilities	IV
6	Revised compensation of crop loss and its speedy payment with less beurocracy	V

CONCLUSION

Farmers are always in a fight with soil and nature. Diseases to crop, price issues, market issues, increasing production costs, natural calamities etc are affecting his life and cultivation and the threat from wild life will be dreadful. Their progress is hindered by many elements and this situation should be studied so closely and intensively. Development is not possible without considering farmers and competent Government should address their issues in time. It is also very important that we protect our wild life, since they are real expressions of the abundant nature. There should be harmonious relationship and coexistence and that should be

ensured through scientific and sustainable measures. However this article is giving light to the opinions of villagers about their life encounters in the context of human wildlife conflict.

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