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CONCERNS ABOUT WILD DOG (*CUON ALPINUS*) PREDATION ON LIVESTOCK IN THE FRINGES OF ARALAM WILDLIFE SANCTUARY, KANNUR, KERALA

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ABSTRACT

Human-wildlife conflict is a serious obstacle for wildlife conservation. With the increase in human encroachments and decreasing natural habitat, negative interactions between humans and wild animals are intensified. This communication focuses on the incidence of Wild Dogs (*Cuon alpinus*) predation on livestock in Aralam and perspectives of the victims who lost their livestock, based on a questionnaire survey. Nineteen goats were killed by wild dogs between Feb- June (2015) in the fringe areas of Aralam Wildlife Sanctuary. Different reasons were suggested by the respondents for the sudden predation by wild dogs, which were not been reported earlier in the area. Even though compensations were provided by Forest Department for the losses caused by wild dogs, spreading of improper interpretation had concerned the people. Of the different mitigation measures suggested, well-maintained electric fencing could reduce the conflict to a greater extent.

Key words: Wild dog, Predation, Conflict, Management.

Introduction

With the overlapping requirements of human and wildlife, along with deforestation and urbanization human-wildlife conflict is a growing concern all over the world. Human need for space, shelter and food had ensured some degree of perceived 'trespass' when it comes to wildlife prone areas. Large carnivores require extensive home ranges and large prey populations which can be only supported by relatively intact ecosystems thus these species are the first to suffer when human populations expand and cultivate previously untouched habitats. The greatest source of conflict between humans and carnivores was from carnivores killing livestock (Treves and Karanth, 2003; Karlsson and Johansson, 2010). Historically, carnivores are frequently perceived as competitors to humans and their interactions have involved conflict and misunderstanding.

The Asiatic Wild dog or Dhole (*Cuon alpinus*) is a medium-sized pack-living carnivore that occurs throughout eastern and Central Asia (Johnsingh, 1983; Sheldon, 1992). Wild dogs are one of the large predators whose distribution is largely sympatric to that of tiger and leopard in the Asian continent (Durbin *et al.,* 2008; Selvan *et al.,* 2013). Once inhabited a large range, habitat fragmentation and anthropogenic factors had made its distribution limited to small fractions (Durbin *et al.,* 2008; Cohen, 1977; Bahsir *et al.,* 2014). Wild dog - human conflicts were earlier reported in Nepal (Khatiwada *et al.,* 2010), Arunachal Pradesh (Gopi *et al.,* 2010) and Himalaya (Jackson, 1996 and Chaudhry *et al.,* 2010). In Kerala, cattle lifting is mostly reported with tigers and leopards and very few with Wild Dogs (Veeramani *et al.,* 1996).

In any management and conservation plan, human-wildlife conflict is the key challenge faced by protected areas (IUCN, 2003). Depredation of livestock and crop damage near the protected area or buffer zone is significant and growing conservational problem (Kharel, 1997; Hussain, 2003) and the conflict can be particularly serious, where rural people live in close association with protected areas (Mishra, 1997). The present study was focused to report wild dog predation in a rural area with livestock damages and the concerns of people living near Aralam Wildlife Sanctuary in Kerala.

Material and Methods

Study area

The study area is situated between Aralam Wildlife Sanctuary and Kottiyoor Wildlife Sanctuary of Kannur District in North Kerala (Fig. 1). The areas reported with wild dog attacks were visited in August, 2015 and the concerns of people who had lost their goats due to wild dog attack were documented. An open-ended type questionnaire method was applied to gather information from the focal group. The respondents for the questionnaire were selected from the compensation register maintained by Kannur Divisional Forest office,

Incidence of wild dog predation on livestock in Aralam Wildlife Sanctuary fringes with reasons and mitigation suggestions measures to minimize predation.

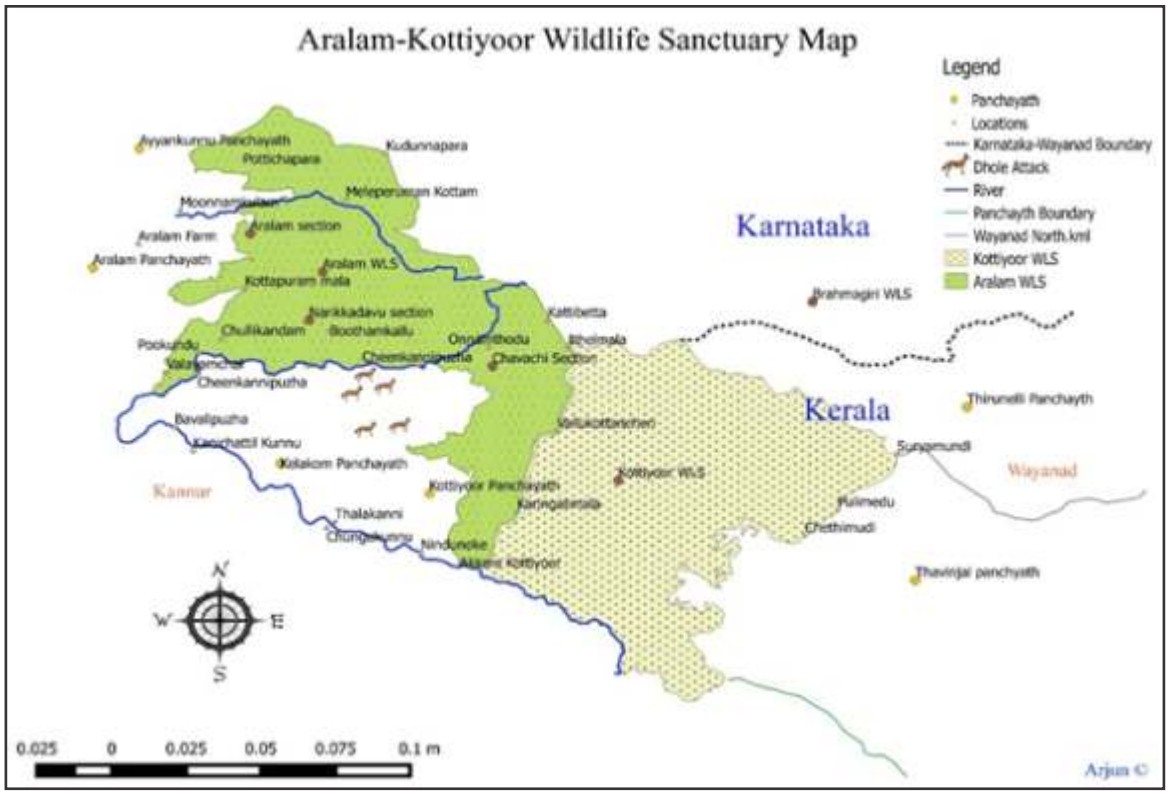

Fig. 1:Aralam-Kottiyoor Wildlife Sanctuary map showing the locations of Dhole attack.

Kerala Forest Department. As no other means of Wild Dog conflict were reported in the study area other than goat predation we had visited seven houses which had experienced goat depredation hence this data is limited but represents the concerns of whole village especially the people who lost their livestock. The victims were shown with the photographs of Wild dogs for identification. Pugmark identification were done to authenticate the predation from wild dogs and also direct observations on predation and personal communications by the victims were noted. The collected information were compiled and analyzed using MS Excel.

Results

Questionnaire survey revealed that, wild dog killed a total of 19 goats in 7 different attacks in Shanthagiri,

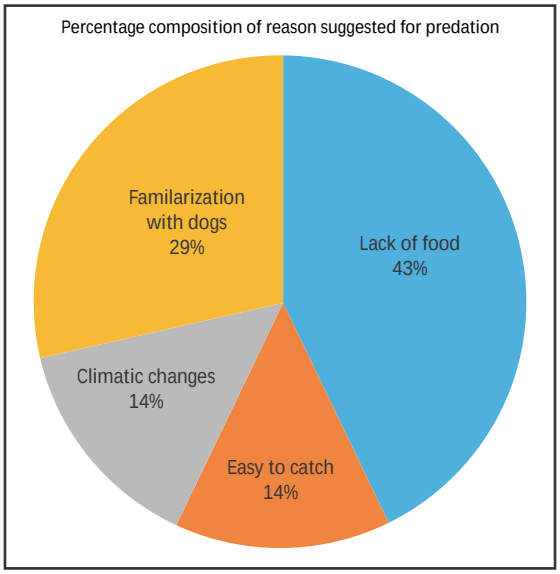

Fig. 2: Percentage composition of the reasons suggested for predation by wild dogs.

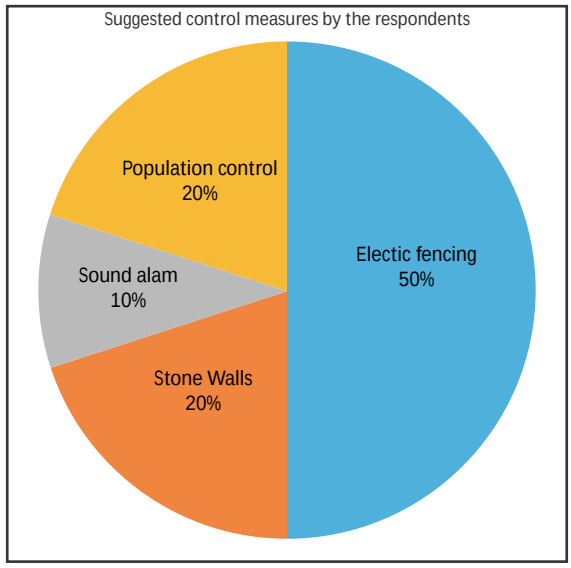

Fig. 3: Percentage composition of suggested by the respondents to control measure to reduce wild dog predation.

Kariyamkappa, Narangathodu and Mosco regions of Kottiyoor range adjacent to Aralam WLS. All these attacks were reported between the months from Feb to June 2015. Respondents opined that the lack of Wild Dog's natural prey species (43%), familiarization with domestic dogs by the goats (29%), climatic changes (14%) and easiness to catch goats (14%) are the major reasons for the livestock predation (Fig. 2). Different control measures such as electric fencing (50%), building stonewalls to prevent wild animal movement (20%), population control (20%) and sound alarms to chase the predators (10%) were suggested by the respondents (Fig. 3).

Discussion

Sudden predation of livestock by wild dogs had worried the villagers. Wild dogs were uncommon in the area with only few sightings records in Aralam and Kottiyoor Wildlife Sanctuaries. Even though livestock such as cows and buffalo were present in the area, wild dogs were found to predate on goats, this may be due to their preference to medium-sized ungulate prey species such as Chital and Sambar (Johnsingh, 1983; Karanth and Sunquist, 2000). Another report suggest that the wild dogs predate small livestock (goat/sheep) in the same number of their pack size according to the livestock availability (Khatiwada *et al.,* 2010) and an incident in Shanthagiri area, where a farmer (Mathew) lost eight goats in a day suggest, a pack of 7-10 individual is likely to be involved in these predatory attacks.

Wild dogs show behavioral thermoregulation that influences daily activity and they rarely resort to high movement during the day (Gopi *et al.,* 2010). Wild dogs generally prefer to hunt during dawn or dusk (Johnsingh, 1983; Venkataraman *et al.,* 1995) which was also realized in present study where a total of 14 goats were predated in evening hours (5:00 - 6:00 PM). All the wild dog attacks were reported between months of Feb - June (2015) in the study area. Mating of wild dogs occur from November to April (dry season) in India and have a gestation period of 60-63 days, pups are weaned by about 6-7 weeks (Cohen, 1978). During denning period wild dogs could be found to move near to human habitations to avoid potential predators and in seek of easy prey species, also they will avoid killing prey close to their dens (Fox, 1984) hence these might be the reason for sudden predation and encountering wild dogs in human habitations.

Prey densities are negatively related to high livestock killings (Ramussen, 1999) and the prey preference of the wild dog was mainly influenced by the availability of prey (Selvan *et al.,* 2013). Hence paucity of natural prey species was suggested to be an important reason for the wild dogs to predate goats (Fig. 2). Another reason suggested were the familiarization of domestic dogs with the goats, hence most of the goats failed to find wild dogs as a potential threat when approached which also had made the kill easier. Also, climatic changes and its effects such as lack of water, vegetative changes inside the forest and adjoining areas might had tend wild dogs to move to a new area. Moreover, prey species like Sambar deer were seen more in human habituated areas with surplus grasses to feed that are then followed by predators such as these wild dogs.

Comparatively, loss of human life due to wildlife is immediately discussed but the loss of crop and livestock which are means to subsistence seldom gets the attention of administrators (Rao *et. al.,* 2002). A total compensation amount of `1,78,000/-were provided by Kerala Forest Department (Kannur Division) depending upon the number, age and breed of the goats predated by wild dogs (pers. comm. C.V. Rajan, DFO, Kannur). But false interpretation that Forest department had introduces these Wild dogs to the area, had worried the people. Such wrong messages had made the situation worse and made people to stand against wildlife conservation. People seek immediate control measure to stop wild dog predating livestock. Different control measures were suggested during questionnaire of which erecting electric fencing along the boundaries of WLS were the most suggested (Fig. 3). Construction of stonewalls to prevent wild animal movement to human habitation and sound alarms to chase away wild dogs were also been suggested. People's

Fig. 4: Goats predated by wild dogs near Aralam Wildlife Sanctuary.

belief of increased population of the wild dogs has also made them to suggest population control (culling) to reduce wild dog predation in the area.

The settlements in the study areas where present from late 60's and 70's where they practiced local cultivations and introduced livestock for their daily needs. Malabari and local breeds of goats were mostly reared in the area. The respondents had started goat farming back years in the area during which there were natural deaths, accidental (no. 12) and deaths due to disease (21) in goats. But the predation of total 19 goats in a short span had concerned the people. Most of the people retain female goats as a livelihood means to yield milk, hence due to this availability, female goats were attacked by wild dogs (no. 18). But studies in wild reported that, more male deer were killed as they are often solitary and tend to range more widely especially during the rut which increases their vulnerability to predation (Gopi *et al.,* 2010). As wild dogs were found to prefer to eat liver, kidneys, lungs and some portion of the intestine (Johnsingh, 1984), in all the attacks wild dogs were found to eat abdomen and breast regions of the goats (Fig. 4).

Conclusion

Decreased natural prey species in Aralam WLS and adjacent areas made wild dogs to prefer goats. New pack formation from the antecedent group also can be considered. Building strong cages are advisable for goat rearing in such areas and special care of goats are to be taken during the denning period of the wild dogs. Even though people are satisfied by the response and attention given by forest department towards the issue they demand complete protection to their livestock. Minimizing the chance of wild animal entering into private lands by constructing well-maintained electric fences could be considered. Provision of proper and immediate compensation during livestock losses could help to handle the situation to a greater extent. Improper interpretations by people are to be addressed and awareness should be provided to handle human- animal conflict.

Wild dogs are known to maintain prey - predator balance in nature, it controls the population of other species like wild boar (Wangchuk, 2004) which cause even more damage in agricultural lands in the fringes of forest particularly in Aralam farm areas. Also, ongoing habitat loss, depletion of prey base, interspecific competition and possibly disease transfer from domestic and feral dogs had affected the population (Durbin *et al.,* 2008) hence with this declining population trend, IUCN has moved Wild dogs from 'threatened' to 'endangered' category in 2004. Therefore, prioritization should be given for conservation of wild dogs along with successful management of the conflict.

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अरालम वन्यप्राणी अभयारण्य, कन्नूर, केरल के सीमावर्ती क्षेत्रों में पशुधन पर जंगली कुत्तों (*क्यूआन एल्पिनस*) के परभक्षण के बारे में चिन्ताएं

आर. रोशनात, डी सीथू, डी. गोकुल एवं सी.पी. अर्जुन

सारांश

मानव–वन्यजीव संघर्ष वन्यजीव संरक्षण के लिए एक गंभीर बाधा है। मानवीय अतिक्रमणों में बढ़ोतरी एवं प्राकृतिक आवास के ह्रास के साथ मानवों एवं वन्य पशुओं के मध्य नकारात्मक पारस्परिक क्रियाएं विस्तार ले रही हैं। इस शोधपत्र में एक प्रश्नावली सर्वेक्षण के आधार पर अरालम में पशुधन पर जंगली कुत्तों (*क्यूआन एल्पिनस*) के परभक्षण के विस्तार और उन शिकार लोगों के परिदृश्य पर ध्यान केन्द्रित किया गया है, जिन्होंने अपने पशुधन खो दिए हैं। अरालम वन्यप्राणी अभयारण्य के सीमावर्ती इलाकों में फरवरी–जून (2015) के मध्य जंगली कुत्तों द्वारा उन्नीस बकरियों को मारा गया है। जंगली कुत्तों द्वारा अचानक परभक्षण के लिए उत्तरदाताओं द्वारा अलग–अलग कारण बताए गए हैं, जिन्हें क्षेत्र में पूर्व में सूचित नहीं किया गया है। हालाँकि जंगली कुत्तों द्वारा पहुंचाई गई क्षतियों के लिए वन विभाग द्वारा क्षतिपूर्ति की गई है, अनुपयुक्त व्याख्या के प्रसार ने लोगों को चिन्ता में डाल दिया। सुझाए गए विभिन्न न्यूनीकरण उपायों मे से अच्छी तरह से अनुरक्षित विद्युत तार–बाड़ बड़ी सीमा तक संघर्ष को घटा सकती है।

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