



Human Wildlife Conflict in Ethiopia- A Review

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Review Article

Volume 4 Issue 1

Received Date: January 13, 2021

Published Date: January 27, 2021

DOI: 10.23880/izab-16000270

Abstract

Human-wildlife conflict is the interaction among wild animals and human. It resulted in negative impact on both people and wild animals. Although it is well known and occurs across the globe, developing countries are more vulnerable than developed nation. Human-wildlife conflict is a serious problem in Ethiopia especially in situation of those who share the immediate boundaries with protected areas. There a lot of investigation has conducted in Ethiopia to assess the magnitude and intensity of wildlife conflict. However, the studies are specific to a given area and animal species. This paper aimed provides summarize information on magnitude of human wildlife conflict in Ethiopia. The gradual loss of habitat has led to increasing conflict between humans and wildlife. Clearing of the forest areas for food and crop production destroys the natural habitats of wildlife. Some of these development projects include roads and railway construction projects, dam construction projects, housing and infrastructure projects, energy production projects and many others. These people rear cattle, sheep, and goats by moving from one place to another in search of pasture grass and water mainly on seasonal basis within a country or across national boundaries. The human population has being expanding over the years at the detriment of other species that inhabit the planet such as animals in the wild. Crop damage is also the major cause form of human wild life conflict in Ethiopia. The intensity and magnitude of this conflict is influenced by people's negative attitudes and perceptions toward the wildlife. This mainly caused by the wild animals move toward human settlements, and lives in close proximity with human due to the disturbance or loss of their wild natural. This conflict resulted negative impact to both human and wildlife. In order to minimize such problem, creating awareness to the local rural community and improved policy concerned wild life is management essential.

Keywords: Crop Loss; Human Wildlife Conflict; Protected Area; Wild Animal

Introduction

Human-wildlife conflict is an interaction between wild animals and people. It resulted in negative impact on people, their resources and wild animals or their habitat. Human wild life conflict (HWC) has existed for as long as humans and wild animals have shared the same landscapes and resources. The conflict is worldwide problem as wild life requirement encroach on those of human. It has recently become one of the fundamental aspects of wildlife management and it represents the most widespread and complex challenge

currently being faced by the conservationist around the world. This may occurs in different settings. Increasing land scarcity, hunting prohibition and wildlife induced damage to property are factors that may create local resistance towards wildlife and protected areas [1]. Protected areas are seen as a key to conserve natural resources through the world, on land as well as at sea. About more than 30,000 protected areas now meet the IUCN definition of conservation. For conservationists, they are an effective measure for protecting biodiversity, but different groups interpret protected areas differently. For the surrounding local communities protected

areas can signify restricted access to livelihood resources, forced relocation, or opportunities for income generation through tourism revenues [2].

Although HWC is worldwide problem, developing countries are more vulnerable. This may related to rapidly growing human population and expanding of settlement. Moreover, livestock holdings and agriculture are important parts of livelihoods and income in developing country [3]. In such regions there is a competition between communities and wild animals, for the use of natural resources, is particularly severe and direct. As a result, resident human populations or wildlife is vulnerable [4]. In Ethiopia for instance, In Senekal sanctuary the great dependence of a large proportion of the human population for their survival on the land, coupled with the presence of large numbers of livestock led to sources of conflict between people and wildlife [5-8]. It is also expected to observe the spatial pattern of wildlife crop raiding incidences in farms located near wildlife habitats or within wild animal species foraging range.

This problem usually occurs when wildlife requirements overlap with those of humans, creating costs to residents and wild animals [9-11]. This is common particularly those who share the immediate boundaries with protected areas [12]. These conflicts result when wildlife damage crops, injure or kill domestic animals, threaten or kill people. The conflict also occurs when a person or community seeks to kill the animals, or when people react against the authorities that are in charge of conserving wildlife and its habitat [13]. Human wildlife conflict raises when local people feel that the needs or values of wildlife are given priority over their own needs, or when local communities are inadequately empowered to deal with the conflict. It is becoming more prevalent as human population increases and brings negative effects like animal death, loss of human life, crop damage, damage to property, injuries to people and wildlife [14].

The nature of conflict shows an increasing tendency between humans and wildlife over the use of natural resources. It is manifested when people are killed or injured by wild animals, loss of livestock through predation, competition for grazing land, wildlife damage on crops and inadequate or lack of compensation for losses [15]. In addition to an economic depletes on farming households human wildlife conflict also could generate other costs to household members. For instance, increased need to guard fields which creates limited access of labor in certain seasons and this is resulted in disruption of schooling. Because children are needed to help guard family fields, increased risk of injury from wildlife. The third and the final one is mitigation strategies that attempt to reduce the level of impact and minimize the problem. Education and training activities could be also directed towards disseminating innovative techniques, building

local capacity for conflict prevention and resolution, and increasing public understanding of human-wildlife conflict [16]. Although several investigation are done concerning to human wild life conflict and management approaches, most of them are specific for particular area and the information are scattered. Therefore this paper is aimed to review and provide summarized information on human-wildlife conflict in Ethiopia with their possible cause by reviewing different available literatures related to the topic.

Magnitude of Human-Wildlife Conflict in Ethiopia

Human population growth and associated increase in rates of natural resource use, habitat modification and fragmentation is forcing wild animals to live in close to human settlement. However, due to increasing livestock depredation and crop raiding, farmers have developed a strong negative perception towards the concerned wildlife [17]. Human-wildlife conflicts have been more intensive in recent decades, because of exponential human population growth and economic activities. The highest intensity of conflicts tends to occur where humans live adjacent to protected areas and Crop damage is the most prevalent form of human-wildlife conflict across the country [18].

In Ethiopia, most of the people whose farming activities are poor, local subsistence farming communities, and in some cases, commercial farms adjacent to wildlife habitats often impacted by the presence and abundance of wild pest animal species. It is also expected to observe the spatial pattern of wildlife crop raiding incidences in farms located near wildlife habitats or within wild animal species foraging range. Increasingly, reports of crop damage caused by wildlife on crop farms are associated with interactions between humans and wildlife [18]. This can mainly be attributed to the alteration of the wilderness landscape as a result of the expansion of human activities close to wildlife habitats. Additionally, the establishment of conservation areas in close proximity to human livelihood activities has also resulted in human wildlife conflicts [19]. Because, these results in overgrazing, erosion, changes in predation pressure and breeding [20]. Human-wildlife conflict, specifically crop raiding is an increasing concern to day. Even though primates dominate amongst pests that damage crops, many animal species raid agricultural crops. For example, insects, rodents, birds, Elephants, baboons, monkeys, pig, warthog, porcupine hares and antelope are those most frequently cited in the literature, due to the impact they have on cash crops and intensive agriculture [21]. Crop raiders including hares, many primates, several bird species, and rodents can diminish or destroy the farmers' food and cash crops in different areas of this region. The intensity and magnitude of these conflicts are influenced by local people's negative

attitudes and perceptions toward wildlife. Negative attitudes towards wildlife and consequent land use change swirl in the long run threaten the conservation and survival of wildlife [22]]. Crop damage is an increasing source of economic loss and local irritation in subsistence agriculture settings and also it promotes negative attitudes towards species of conservation value. Wildlife ranging from invertebrate insect pests to vertebrate such as small mammals, birds and large mammal are reported to raid agricultural crops in Ethiopia. Crop raiding by wild animals cause food insecurity and loss of income to forest adjacent communities [23]. In Ethiopia wildlife such as bush pigs, baboons, giant forest hogs, warthogs, common monkey, and porcupine mentioned agricultural pests In villages close to forest areas [24]. Recent study in Bale Mountain National Park reported warthog and mountain nyala raid agricultural crops such as barley (*Hordeum spp*), linseed (*Linumu sitatissimum*), vegetables including; potato(*Solanum tuberosum*), cabbages [25]. Similarly, et al. reported an average crop loss per households as 117+10 kg due baboons'.

In Ethiopia, elephant reported as crop raiders and given more attention. Cultivated crops are attractive to elephants as alternative source of foods creating conflict with communities living adjacent to protected areas [26]. In Ethiopia elephants raid agricultural crops such as; vegetables, fruits and crop stores around house ranges and individual farmers suffer from damage by elephants risk their lives in defense of their crops [27]. In Churchura- National Park crops such as: *Zea mays* and *Sorghum bicolor* faced problem of raiding by elephants. In Babile elephant sanctuary raiding of crops such as: sorghum, maize, mango, papaya, pumpkin, sweet potato and ground nut by elephants reported. Admasu, et al. reported that the main elephant group taking part in crop-raiding are the bulls group having 3 to 6 members, sometimes followed by cows and calves group having 5 to 8 elephants. In similar way, in Kafta-Sheraro National Park Elephants was reported as it cause social problems; prevent people from walking at night, killing peoples, brought tsetse flies which causes trypanosome in livestock and also causes extra labor cost on family members.

Warthog, Swayne's hartebeest, velvet monkey and Porcupine was reported as the most severe crop pests in Senkele Swayne's hartebeest sanctuary. Warthog causes severe damage due to its feeding and trampling to staple food grain maize (*Zea mays*) and non-grain food crop potato(*Solanum tuberosum*) that are planted for subsistence [28] wildlife induced. Damage to crop was more widespread and small damage on their crops caused by the wild animals threatening their lives. Cultivated crops such as maize (*Zea mays*) and potato (*Solanum tuberosum*) and haricot beans are major crops raided by wildlife in Swayne's hartebeest sanctuary. In Guassa community conservation area gelada

baboons, klipspringers, duikers and rabbits raid crops such as barley, lentil, bean, wheat and peas mainly at the time of seedling. Subsistence farmers living to adjacent Borena sayint forest ranked gelada baboons the most crop raiders on farmlands causing huge damage in farmlands throughout day. Similarly, in Wonji-Shoa sugarcane plantation grivet monkey (*Cercopithecus aethiops*), hippopotamus (*Hippopotamus amphibus*) and warthog (*Phacochoerus africanus*) were reported to cause greater damage to sugarcane plantation. Admasu, et al. reported that warthogs causing damage on sugar cane plants by feeding on its roots, rhizomes and bases of its stalk which is supposed to give more yields per unit area. Grivet monkey chewing sugarcane plants like humans and cut matures sugarcane at center of the nodes and Hippopotamus repeatedly damage sugarcane plants at the shoots and younger parts of the plants. In Ethiopia small mammals like rodent species are known as crop raiders for a long of time. Approximately out of 84 species of rodents recorded 11%, of them are major agricultural pests. *Arvicanthis* and *Mastomys* species are the major pests in Ethiopia. Maize, inset and potatoes are the crops most affected by rodents. A loss estimation of yield 26.4% and 94.4% in maize and cereal crops was reported in central and northern highlands of Ethiopia.

One of the most serious human-wildlife conflicts in Ethiopia is that of livestock losses. For example, large carnivores like hyenas can be observed in many parts of Ethiopia but prey population appears generally lower. The spotted hyena has a reputation for killing and scavenging domestic stock, mostly cattle, sheep and goats, but also poultry, cats, dogs, horses, donkeys and camels. These predatory activities have actually been observed. It can be also observed that large mammalian carnivores such as leopard and hyenas are responsible for fatal human attacks on humans. Those killed are farmers, and other people who go to collect fuel wood or water in rivers or streams inside the wildlife area. Livestock depredation by carnivores can reduce tolerance toward species that are already threatened, whereas potential dangers posed by conflicts with large-bodied carnivores' animal species may also negatively influence local attitudes towards animals.

Olive baboon was reported as the most predators on small ruminant and chickens in wondo genet district of south western Ethiopia. It killed sheep, goat and chickens. Similarly leopard was reported to hunt dog and ship around zegie peninsula. Study conducted by Muluken M, et al. [24] indicate that in Won do Genet District, Hyena threats to livestock and White tailed Mongoose considered the leading predators to poultry production. As are salt majority of the house hold were experiencing conflict with White tailed Mongoose and 6 chicken losses per house.

According to Muluken M, et al. [24] the stuffs that lived in Won do Genet College, suffered from velvet monkeys and baboon because of their damage to properties, food from kitchen and disruption when they jump on roof of the house. Especially early in the morning they run here and there on the roof of house causing disturbance for sleeping. They also climbed on wire/rope where washed clothes were mounted for drying and made it to drop on the ground. In homes, typically food availability from open doors leading to the kitchen was the leading issue encouraging verves monkey and baboon pest behaviors. Hence, windows and doors were closed the whole day which leads to insufficient fresh air to the family inside the house. Fungus had got opportunity to multiply on the roof of the house because of insufficient ventilation and this was a real health problem for many stuffs living there.

Conclusion and Recommendation

The Conflict between human and wild animals existed since the existence of human on the earth and is an increasing concern in all parts of the world particularly in developing countries in which majority of peoples depends on agriculture. Human population growth, Lack of awareness, negative attitudes of local people toward wildlife and activities such as deforestation, inappropriate site selection for investment in forested areas and expansion of agricultural activities together have led to increased human encroachment on previously wild and uninhabited areas. This will generally increase conflict between humans and wildlife. Because, this conditions leads local people's intended to destruct the wildlife habitat through over use of natural resource, expansion of agricultural and grazing lands for their subsistence. It causes the wild animals move toward human settlements, and lives in close proximity with human due to the disturbance or loss of their wild natural habitats which in turn intensify the conflict. In Ethiopia, majority of the people farming activities are poor, local subsistence farm in communities, and in some cases, commercial farms adjacent to wildlife habitats often impacted by the presence and abundance of wild pest animal species. Some of the deaths results due to revenge attacks by people when wild animals killed people or caused serious damage to human properties therefore, in order to solve or minimize the problem, the following recommendation were forwarded for the concerned body.

❖ It important to creating an awareness on local or rural communities concerning to wildlife resource and management

❖ It necessary creating an improved policy concerned wild life. Improved Policies on land tenure, controlled utilization of wildlife through hunting and the trade of wildlife products, game farming, tourism development and

compensation schemes should be strengthened

❖ There should be compensation payment by the government to the poor rural farmers that have suffered damage of crop sand properties due to wildlife. This is vital in order to stop revenge killings and provide a support to the affected farmers.

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