

**RECONCILING ELEPHANT AND LOCAL COMMUNITY
WELLBEING IN KENYA:**

IDENTIFYING GOOD PRACTICE MANAGEMENT



MURDOCH
UNIVERSITY

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Sharon J. Kili

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Supervisors: Dr. Michael Hughes and Dr. Kate Rodger

Murdoch University, School of Veterinary and Life Sciences

DECLARATION

I declare that this thesis is my own account of my research and contains, as its main content, work which has not previously been submitted for a degree at any tertiary education institution.

Sharon Kili

24th June 2016

ABSTRACT

Worldwide, human-elephant conflicts result in the destruction of elephant and community well-being. This occurs due to negative interactions between the two species affecting the conservation of elephants in Asia and Africa. Conflict incidences occur frequently near protected areas and have intensified in recent years due to increasing human populations and the expanding agricultural activities they practice. The aim of this thesis is to 1) establish the current status of HEC in Kenya 2) determine whether conflict resolution programs are achieving reconciliation 3) identify challenges experienced in trying to do so and 4) find out what constitutes good practice management. This thesis reviewed literature on the status of the conflict situation on a global and national scale to determine efforts made for conflict management. The focus of this study is on the elephants of Amboseli National Park in Kenya, Africa who are the longest studied elephants in the world but who are in constant conflict with the community. The Kenya Wildlife Service is the authority mandated to protect these elephants but which faces challenges in trying to run conflict resolution programs with the community. A field study was carried out in January 2016 at Amboseli to establish whether conflict resolution programs in place are achieving reconciliation and identify the challenges experienced by the park management in trying to do so. Semi-structured interviews were carried out with 13 individuals comprising of community leaders, KWS managers and NGOs/Associations. The information obtained was analysed and coded according to emergent themes which established that due to several challenges, conflict resolution programs were not proving effective. The study therefore identified good practice management as establishing proper communication channels to create an abundant share of knowledge between the park authorities, NGOs and community and collaborative efforts towards achieving effective reconciliation.

Key words: human-elephant conflict, conflict resolution programs, human-elephant conflict management, reconciliation

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“Of all African animals, the elephant is the most difficult for man to live with, yet its passing - if this must come - seems the most tragic of all. I can watch elephants (and elephants alone) for hours at a time, for sooner or later the elephant will do something very strange such as mow grass with its toenails or draw the tusks from the rotted carcass of another elephant and carry them off into the bush. There is mystery behind that masked gray visage, and ancient life force, delicate and mighty, awesome and enchanted, commanding the silence ordinarily reserved for mountain peaks, great fires, and the sea.”

Peter Matthiessen, *The Tree Where Man Was Born*

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Abbreviations

HEC	Human-elephant conflict
PAC	Problem Animal Control
KWS	Kenya Wildlife Service
IFAW	International Fund for Animal Welfare
ATGSA	Amboseli-Tsavo Group Scouts Association
WCMA	Wildlife Conservation and Management Act
NGO	Non-governmental organization
CSR	Corporate Social Responsibility

GPS Global Positioning System

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Chapter 1

1. INTRODUCTION

There exists a love-hate relationship between elephants and humans. On one hand, elephants are regarded as a valuable resource while on the other hand; they are termed as destructive pests (Dublin & Hoare, 2004). The interactions that occur between the two affect the wellbeing of both species as well as those dependent on the elephant for survival (Dublin, McShane, & Newby, 1997). This research study seeks to delve deeper into this interaction to find out among other things the status of the human-elephant conflict in the elephant ranges both in Africa and Asia with a focus on those elephants in the Amboseli National Park in Kenya, Africa. With this knowledge and through a field study in Amboseli, this research seeks to establish whether conflict resolution programs in place are working towards achieving reconciliation, the challenges faced in trying to do so and finally, determine what constitutes good practice management.

1.1 Background to the Study

Worldwide, human-elephant conflicts result in the destruction of elephant as well as community wellbeing. The human-elephant conflict is a significant issue affecting the conservation of elephants in both Asia and Africa where the Asian and African elephants are found. This conflict occurs mostly where humans and elephants are in close contact (Kangwana, 1995). Incidences have been recorded in regions where elephants and humans live within vicinity of one another for example, near protected areas (Hoare, 1999).

This interaction between humans and elephants causes negative effects such as crop raiding and death and injury to humans and livestock (Okello et al., 2014). Conflicts have intensified in recent times due to increased human populations as well as expanding agricultural activities (Naughton et al., 1999). As a result, wildlife authorities to protect human life, kill these elephants in retaliation due to the destruction they cause to humans lives and property. These elephants are also killed illegally by the local

people in response to the destruction caused to their crops and property (Omondi et al., 2004).

Globally, through elephant monitoring programs, incidences have been recorded in many Asian as well as African countries. These programs are helping implement mitigation measures aimed at resolving these conflicts (Chong & Norwana, 2005). For example, a project based in India known as Project Elephant is helping conserve elephant habitats (Bist, 2002) while in Africa a program known as Amboseli Elephant Project run in the Amboseli National Park in Kenya is working with the local community to secure land for elephant habitats (IFAW, 2014). Resolving human-elephant conflicts is therefore critical for the improvement of livelihoods of communities co-existing with elephants and the conservation of elephant populations (Osei-Owusu & Bakker, 2008).

1.2 Human-elephant conflict in Kenya

In Kenya, human-elephant conflict is an issue that has gained international importance due to its impact on elephant populations. Since elephants move outside of their protected areas in search of food and water, they interact with people especially farmers causing destruction on crops, livestock and property as well as death and injury on both the people and elephants. This competition for resources is intensified during periods of drought especially in the wake of increasing human populations (Omondi et al., 2004).

The Kenya Wildlife Service is the authoritative body in charge of protecting and conserving Kenya's wildlife. This service has implemented several strategies to control and prevent conflict issues which threaten the continuing existence of elephants in the wild. Programs such as Problem Animal Control and Elephant Monitoring Program are just among the few programs in place to help mitigate conflict issues. This authority however experiences several challenges in trying to achieve reconciliation between the elephants and local communities (Okello et al., 2014).

1.3 Study Site Location

This research study is based on the Amboseli National Park which is located in Kenya on the African continent. This protected area is home to more than 1500 elephants that, apart from Mt. Kilimanjaro, are the park's major attraction (KWS, 2008). However, this area faces challenges to do with elephant- local community conflict. Collaborative efforts between the Kenya Service management and NGOs based at the park are helping achieve reconciliation however; conflict is still on the rise.

1.4 Research Questions and Aims

This research study seeks to answer the following questions:

1. What is the current status of the human-elephant conflict in Kenya?
2. Are conflict management programs effectively achieving reconciliation between elephants and local communities?
3. What challenges are faced by these programs in trying to achieve this?
4. What constitutes good practice conflict management?

In doing so, this thesis aims to determine what constitutes good conflict management by evaluating whether human-elephant conflict resolution programs are effectively achieving reconciliation between elephants and local communities and what challenges they face in trying to achieve this.

1.5 Definition of terms

Human-elephant conflict:

This refers to direct and indirect negative interactions between humans and elephants that are harmful to both (Ngure, 1995).

Community wellbeing:

This refers to a combination of (social, economic, cultural or political) factors important for the welfare of a community without which would impede achievement of proper livelihoods.

Elephant wellbeing

This refers to a combination of factors (such as the ability to roam, feed or water) that are important for the prosperity of elephants without which would prevent their survival.

Good practice management

Good practice management refers to the use of a set of methods that are effective for the achievement of objectives (such as achievement of reconciliation between humans and elephants).

1.6 Thesis Overview

This research in seeking to answer these research questions will first provide a description of the study site; Amboseli National Park. This will be followed by a review of literature to determine the status of elephant-local community conflict situations in Kenya, African as well as Asian countries as well as how these countries are helping achieve reconciliation. Chapter 4 will evaluate and justify the methodology used in carrying out my research study. Thereafter, the result and discussion sections, the weight of my thesis, will present the evidence gathered from my research and discuss my findings with backing up from reviewed literature. The conclusion of the thesis will then determine the extent to which my aims and objectives highlighted were met as well as suggestions for further research.

The six ranches include: Kimana/Tikondo, Olgulului/Olararashi, Selengei, Mbirikani, Kuku and Rombo which all cover an area of about 506, 329 hectares. The ranches are important to the park as they act as a buffer zone where wildlife such as elephants can roam in search of pasture and water. The park relies on the ranches to accommodate the wildlife during the rainy season between October and May when the wildlife move out of the park into the ranches (Okello, 2005).

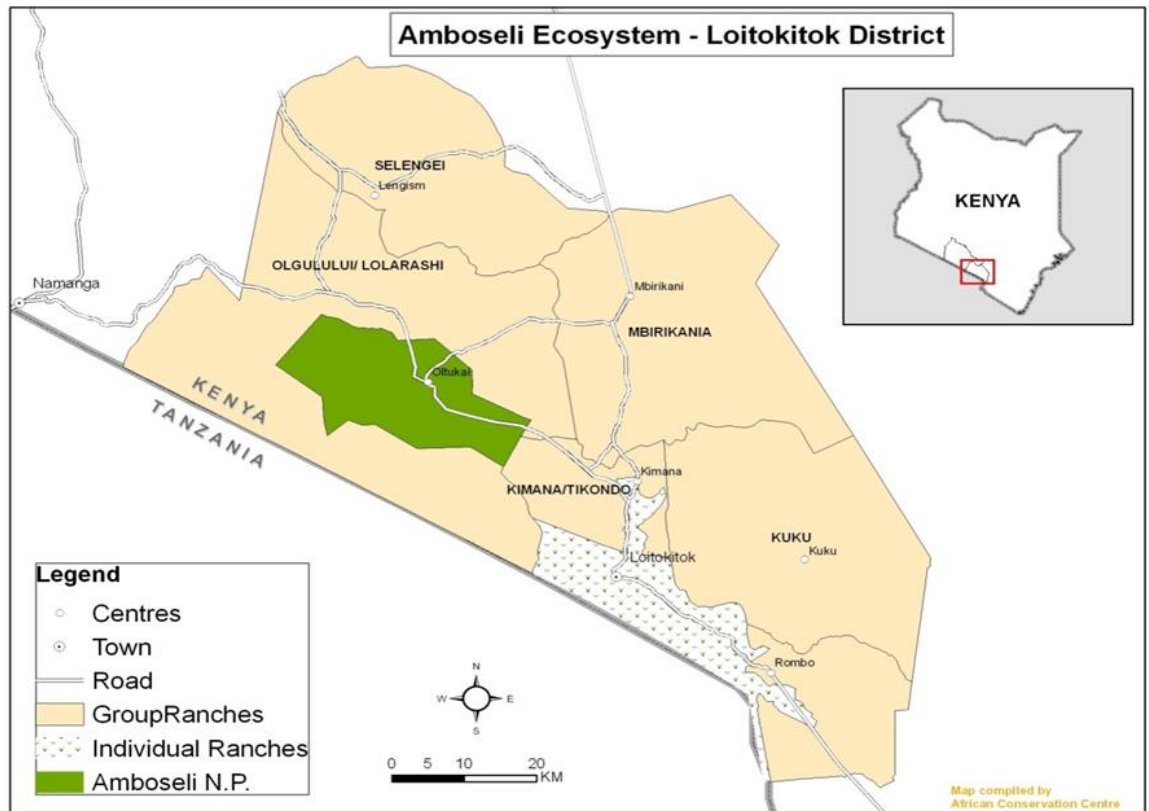


Figure 2-2: A map showing the Amboseli ecosystem including the group ranches surrounding the park (source: <http://www.accafrica.org/where-we-work/landscapes/>)



Figure 2-3: *Picture taken in Amboseli National Park with a backdrop of Mt. Kilimanjaro scenery (Source: self)*



Figure 2-4 : *Picture taken of the entry gate at Amboseli National Park (Source: self)*

2.2 Characteristics

Amboseli National Park is a world renowned UNESCO Biosphere Reserve as it is an area that is fulfilling the functions of a conservation area through research and development (KWS, 2008). In fact, the elephants of Amboseli have been closely monitored and researched for over four decades making them part of the longest Elephant Monitoring Programs in Africa. Dr. Cynthia Moss who heads the Amboseli Elephant Research Project has together with her team been able to provide information for the better understanding and therefore conservation of the African elephant. This knowledge base is shared to the Kenya Wildlife Service to enable the body ensure the sustainability of the elephant populations at the park (Moss, 2011).

The park experiences an arid to semi-arid climate which is suitable for a pastoralist way of life. Amboseli is home to the Maasai community, a tribe in Kenya who are

pastoralists living in the surrounding group ranches. This lifestyle has allowed this community to live in peaceful co-existence with the elephants. The elephant population in Amboseli is higher than the park's carrying capacity hence the elephants venture out into the ranches in search of roaming space, water and pasture (Kioko et al., 2006; Okello, 2005). These elephants have also had little run-ins with poachers and therefore have not had significant reductions caused by poaching. This is due to the monitoring done by researchers, the presence of tourists at the park which makes it difficult for poachers to move unnoticed and the Maasai people who are intolerant of anyone killing wildlife for trophy (Moss, 2011).

2.3 Elephants, Land Use Change and Conflicts

Amboseli National Park is home to a major keystone species; the African elephant. It boasts over 1500 free-ranging elephants roaming the land (KWS, 2008). These species are a major tourist attraction at the park but are associated with problems they cause to local farmers in Amboseli. These elephants cause damages to crops through raids, destruct property and injure livestock and people (Okello, 2005). This is due to the changes that have occurred to the ecosystem's land use from pastoralism to one dominated by crop farming. This is caused by the infiltration of other Kenyan tribes into the Amboseli ecosystem who practice a crop-growing lifestyle (Kioko et al., 2006).

This infiltration has caused an increase in human populations causing changes to the land tenure system where land that was previously communal owned jointly by the Maasai community has now been converted to private land by the infiltrating tribes. This change in land use has affected the wildlife migratory routes and dispersal areas whereby what was once passage for elephants to travel in search of pasture and water is now inhabited by human settlements. This brings about increased human activities such as agriculture and livestock production which contributes majorly to the conflict situation at the park. Despite the good relations between the elephants and the Maasai community, frequent contact causes negative interactions between the elephants and the local people. This conflict causes loss of livestock due to attacks and because of the

cultural importance given to ownership of cattle in this community, retaliatory attacks on the elephants occur (Kioko et al., 2006).

2.4 Amboseli Ecosystem Management Plan (2008-2018)

The Amboseli Ecosystem Management Plan is a ten year plan for the management of the Amboseli ecosystem as a whole. This plan outlines programs and action plans aimed at improving wildlife conservation as well as the quality of life of its inhabitants. The plan addresses the current challenges faced by the ecosystem as well as possible approaches that could be taken in managing the issues (KWS, 2008).

In regard to the elephant-local community conflict situation, the plan outlines a community partnership and education programme targeted at implementing measures aimed at managing the conflict. This programme's key actions include establishing community wildlife conservation areas within the surrounding ranches to safeguard the wildlife corridors, maintaining the available wildlife barriers in the park as well as expanding the conflict resolution compensation scheme to cover the entire Amboseli ecosystem. (KWs, 2008).

2.5 Suitability of Amboseli N.P as a Study Site

Amboseli National Park is largely affected by human-elephant conflict and this provides a good basis for the study on the effectiveness of conflict management programs in achieving reconciliation between elephants and the local community.

Chapter 3

3. LITERATURE REVIEW

This section provides the theorized context of the research study whereby literature is reviewed from international sources beginning with a review of elephants in general and then a look into both the African and Asian elephants. Thereafter, a review of literature regarding human-elephant interactions and conflicts is done with the aim to establish causes of conflicts as well as management strategies employed. Finally, the last section covers the first research question: “what is the current status of the human-elephant conflict in Kenya?”

3.1 Elephants

According to Perera (2009), wild elephants are found in 50 countries, including 37 countries in Africa and 13 in Asia. Elephants are a key stone species and help maintain the biodiversity of ecosystems in which they live in. Elephants are responsible for altering the density and composition of landscapes by creating clearings that encourage the regeneration of trees (Kameri-Mbote, 2005). These animals require a large area as habitat and for this reason enable the conservation of other species living within the same ecosystem. For example, they reduce bush cover for browsers and grazers therefore creating favourable environments for them. Elephants also cause seed dispersal whereby in some West African countries, many plant species depend on seeds that pass through an elephant’s digestive tract to evolve (WWF, 2011).

Elephants therefore due to their need for a large area of habitat, their role in changing environments combined with a subsequent close proximity to humans, cause negative influences due to interactions between them and humans. This interaction brings about human-elephant conflict which is an issue that affects both the African and Asian regions (Perera, 2009). According to many studies that have been done in both the African (Hoare 1999) and Asian continents (Sukumar, 2003), despite the measures that

have been put in place to prevent and control this issue, the human-elephant conflict issue continues to be on the rise.

3.1.1. The African Elephant

African elephants (*Loxodonta africana*) are viewed in many cultures as iconic animals due to their charismatic qualities as a valuable resource and key species (Dublin & Hoare, 2004). Despite their cultural importance however, the African elephant is listed as Vulnerable in the IUCN Red List. African elephants have declined drastically from an estimated population of over 5 million throughout the continent just over a century ago to an estimated population of just under half a million in 2013 (IUCN, 2013). The populations according to the IUCN African Specialist Group (AfSG) Report released in 2013 have decreased from approximately 550, 000 in 2006 (Figure 3-1) to 470,000 in 2013. This report places loss of habitats due to land conversion for human activities as the leading cause of elephant mortalities (IUCN, 2013). However, Perera (2009) attributes the decline in African elephant populations to the poaching of ivory as a major reason but also notes the destruction of their habitats due to increased human populations and human activities is also a cause. Both cases point to a rise in human populations resulting in a conflict between the needs of elephants and humans living together in the same area of land.

Table 3-1: The African Elephant Status Report, 2007 showing population number of Africa’s elephants for the year 2006 (Source: Blanc et al. 2007)

Region	Elephant Numbers			
	Definite	Probable	Possible	Speculative
Central Africa	10, 383	48,936	43,098	34,129
Eastern Africa	137,485	29,043	35,124	3,543
Southern Africa	297,718	23,186	24,734	9,753
West Africa	7,487	735	1,129	2,939
Totals	472,269	82,704	84,334	50,364

Africa's elephants live majorly in Southern African states where 50% of these elephants are known to live in Botswana (DGEC, 2003). The African elephant populations however hold a paradox whereby despite decreasing elephant populations recorded overall, some specific regions are experiencing an increase in population. This can be attributed to the confinement of these remaining populations in reserves and protected areas due to the encroachment of human settlements in wildlife habitats (Blanc et al., 2007). Countries such as Botswana, South Africa, Tanzania and Zimbabwe fall in this category where increasing numbers are threatening the biodiversity of the region and results in increasing human-elephant conflicts (Perera, 2009).

3.1.2. The Asian elephant

Asian elephants (*Elephas maximus*) are known as a flagship species as they are associated with the culture and social practices of the people (Perera, 2009). These animals just like their African brothers are iconic and are part of the religious practices of many Asian countries (Sukumar, 2006). Despite their importance to the people however, Asian elephants are categorized as Endangered according to the IUCN Red List. Wild elephants in Asia are approximately between 35,000 to 50,000 (Figure 3-2) while those in captivity are about 16,000. The population of wild elephants has been on the decline due to human factors such as increased human population, loss of habitats such as forest cover and an increase in human-elephant conflict (Perera, 2009). Asian elephants are also poached however the numbers are not as high as African elephants. This is because some elephants do not have tusks; nevertheless, they are still killed for meat, hide and other products (Sukumar, 2006).

According to Sukumar (2006), loss of habitat has accelerated due to increased human populations which have resulted in increased economic growth in some countries such as Malaysia and Indonesia where agriculture is practiced at the expense of the tropical rainforest. This causes an increase in the interaction between elephants and people leading to human-elephant conflict which is the biggest conservation issue in the continent. And just like the African elephant, Asian elephants enjoy crops grown in

these areas as they are more palatable and nutritious than their own food from the wild (Sukumar, 1989).

Table 3-2: Population estimates for the Asian Elephant for the year 2000 derived from the IUCN Species Survival Commission’s Asian Elephant Specialist Group (Source: <http://www.elephantcare.org/asiandem.htm>)

Country	Population estimate
Bangladesh	195
Bhutan	60
Borneo	1,000
Cambodia	200
China	250
India	19,090
Indonesia	2,800
Laos	950
Myanmar	4,639
Malaysia	800
Nepal	41
Sri Lanka	3,160
Thailand	1,300
Vietnam	109
Total	34,594

Some countries experience higher incidences of human-elephant conflict more than others. For example, India experiences a high number of conflict incidences where about 300 people lose their lives every year. India has the highest population of elephants in Asia with about 27,000 wild Indian elephants. This combined with a large human population causes higher conflict incidences (Bist, 2002). This is contrary to Nepal where about 60 human deaths have occurred over a period of 20 years due to its small elephant population of between 70 and 100 elephants (Sukumar, 2006). Nevertheless, negative interactions between the people and elephants cause loss to both human and

elephant populations where human threat in Asia is higher than in African countries causing more human deaths (Hefernan & Trinh Viet Cuong, 2004).

3.2 Human- elephant interactions

Elephants interact with the environments they live in both positively and negatively. Elephants play a role in contributing to scientific research, they enhance land use planning and rural development by changing the ecosystems they live in (FAO, 2015). In some Asian cultures, they contribute to heritage of the people (Sukumar, 2006) while in some African countries such as Kenya; they are a huge contributor to the economy and are a major tourist attraction (Kameri-Mbote, 2005). On the other hand, elephants are also viewed as pests that destruct agricultural activities in many regions (Dublin & Hoare, 2004). The biggest challenge for the conservation of elephant lies in the interactions and co-existence with communities that share its ranges (Dublin, McShane, & Newby, 1997).

Positive interactions between elephants and humans occur in several settings for example in protected areas where tourists visit national parks and reserves to see the animals in their wild setting. Other places include enclosed areas such as zoos and sanctuaries where the elephants are protected in smaller numbers (Naughton et al., 1999). Elephant parks found in Southern Africa countries and in Thailand, keep elephants captive for the purpose of offering elephant rides to tourists. However, this has been frowned upon by animal welfare organizations such as World Animal Protection advocating for the end of these rides terming them as cruel (World Animal Protection, 2015). Unlike elephants which live in enclosed areas, wild elephants tend to have more negative interactions with people mainly due to an increase in human populations thereby causing encroachment into elephant habitats (Naughton et al., 1999).

3.3 Human-elephant conflict

Human-elephant conflict (HEC) occurs due to negative interactions between humans and elephants (Ngure, 1995) where they are in close contact (Kangwana, 1995). These

interactions cause a reduction in human livelihoods and affect the conservation of elephants (Kansky et al., 2014). Humans and elephants compete for space, food and water therefore conflicts occur where elephants come into contact with people regardless of whether the elephants live in protected areas (Hoare, 2000). Conflicts occur in regions where elephants occur which is in both the Asian and African continents (Perera, 2009).

HEC has become a focus of international attention due to the urgency of the impact it has caused to elephant populations as well as the habitats they live in (Omondi et al., 2004). Conflict incidences have intensified over the last few decades due to increases in human populations as well as expanding agricultural activities (Naughton et al., 1999). Conflict occurs in large proportions due to the economic losses suffered by farmers who lose their land to crop raids by elephants as well as injuries or death inflicted to their livestock (Okello et al., 2014). These conflicts are usually concentrated at the edges of wildlife protected areas because of the fertility of the land as well as close to migration routes and dispersal areas as these places act as elephant refuges (Hoare, 2000). Moreover, people build settlements and create farms along elephant migratory routes (Kangwana, 1995). Elephants therefore go in search of food and water in these areas especially during the dry periods causing unavoidable interaction between them and farmers (Naughton et al., 1999; Tchamba & Foguekem, 2012).

Intense conflicts occur due to increased habitat fragmentation where agricultural activities cause crop raids to occur (Sukumar, 2006). Male 'bull' elephants have been known to be involved in the raids on farms in search of crops they enjoy (Tchamba & Foguekem, 2012). These 'problem' elephants are solely responsible for damage where they are known to feed on and cause destruction of entire acres of land in one night causing financial losses (Naughton-Treves, 1998). Although other species of animals cause crop damage, elephants cause major damages in Africa and Asia causing retaliatory attacks by farmers on elephants that cause damage to their crops (Naughton et al., 1999). Therefore, elephants as key stone species face threats which can have

greater ramifications for the habitats they maintain and species that depend on them for survival (World Wildlife Fund, 2011).

HEC in Asia is one of the biggest conservation issues that results in loss of millions of dollars in damage from elephant crop raids. Crops destroyed include cereals, sugarcane, palms, vegetables and fruits (Sukumar, 2006). Human threat is also a big issue due to its intensity in Asian countries. For example, in Vietnam and Bangladesh, small populations of elephants have caused serious damage in villages causing these elephants to be killed in retaliation. In African countries, HEC is also a big contributor to loss of crops destroying farmer's livelihoods and in turn destroying elephant wellbeing (Naughton-Treves, 1998). African elephants are known to destroy crops such as maize, beans, bananas, cashew nuts, sugarcane, cabbage, carrots and onions among others (Kiiru, 1995).

3.4 Causes of human-elephant conflict

Conflict between humans and elephants occurs due to the encroachment of human populations onto elephant habitats. This in turn causes elephants to raid farms in search of food which results in human threat, damage of property and retaliatory killings of elephants (Kiiru, 1995; Kangwana, 1995). According to a study by Naughton et al. (1999), there is no single reason for HEC. Naughton et al. (1999) discuss social and physical factors that have led to the increased frequency of human-elephant interactions across African countries. These factors include: land-use changes, human-induced changes and socio-economic changes.

Land use changes have contributed majorly to the human-elephant conflict due to the increasing expansion of land for agricultural practices. This is attributed to increasing human populations which also lead to loss of previous elephant habitats. Human activities such as logging and artificial water sources attract elephants especially during droughts and encroachment of humans on elephant migratory routes also causes conflict (Kangwana, 1995; Kiiru, 1995; Tchamba, 1996).

Human-induced changes in elephant behavior have caused some elephants to lose their fear of people. This is due to the increasing number of elephants living in protected areas and habituation through contact with tourists and locals. Other elephants have also come to depend on crop-raiding for survival in areas where there is difficulty (Kangwana, 1995; Naughton-Treves, 1998; Tchamba, 1996).

Socio-economic changes contribute to conflict due to the decreased tolerance of local people of crop-raiding elephants after the ban on hunting. Other causes include changes in land tenure where land that was previously communal has now been converted to individual land. Another change is that there has been a decrease in the guarding of crops by men who have left their traditional homes for the city to seek employment (Hoare, 1995; Lahm, 1996; Naughton-Treves, 1997).

3.5 Human-elephant conflict management

According to Treves et al. (2006), human-wildlife conflict management is referred to as the planning, intervening, monitoring and conduction of baseline research on human-wildlife conflicts. In this case, human- elephant conflict management would refer to the management of human-elephant conflicts. Management of conflicts involves resolving conflicts and creating reconciliation between elephants and people. Resolving human-elephant conflicts is critical for the improvement of livelihoods of communities co-existing with elephants and the conservation of elephant populations (Osei-Owusu & Bakker, 2008).

Elephants are seen as a nuisance by landowners and especially farmers. Hence when they raid crop farms and destroy property, they create a negative perception in people (Dublin & Hoare, 2004). It is therefore crucial that communities living in close range with elephants are integrated into conflict management. Haule et al. (2002) suggests two ways that the community can be involved and that is through community-based management or co-management. Community-based management involves transferring power from the state or governing body to the local community. Co-management differs slightly because it involves the state managing the wildlife in close cooperation with the

local people. Both concepts can be used successfully where community-based management is applicable in cases such as providing the community with collected revenue from parks while co-management involves providing compensation for damage caused by elephants to people's property (Kameri-Mbote, 2005). The challenge here however is that developing compensation schemes is easier said than done as factors such as a lack of resources prevents the culmination of payment. This also causes the community to have a negative perception of not only the wildlife authorities but also the wildlife being conserved (FAO, 2015).

Conflict management programs are helping to implement mitigation measures aimed at resolving HEC (Chong & Norwana, 2005). In India for example, a program known as Project Elephant contributes to the conservation of elephant habitats and populations whereby it incorporates land use planning into conflict management (Bist, 2002). In Kenya, a program known as Amboseli Elephant Project is working to combat HEC by partnering with communities living on group ranches surrounding Amboseli National Park to secure elephant corridors by leasing land from the land owners to set aside land as a wildlife conservancy and eventually seek private sector participation to build an eco-friendly tourist facility that will provide income for the locals (IFAW, 2014).

Different mitigation strategies are employed by different countries to manage human-elephant conflict. Hoare (2015) provides a review of mitigation measures that have been applied over the past 10 years in African countries. These measures are grouped as direct or indirect measures and are required to be used in combined groups to achieve effective management. Direct measures include those that can be applied within conflict zones while indirect measures can be applied beyond the conflict zone. Direct measures include: use of traditional deterrents and disturbance methods, disturbance, chasing and translocation of problem elephants by wildlife authorities, killing of problem elephants by wildlife authorities, fencing and use of olfactory (using chilli extracts) and auditory (using bee sounds) deterrents. On the other hand, indirect measures include: collecting data and performing research, establishing compensation and insurance schemes for

affected communities, involving the community in conservation programmes and enhancing land use planning and creating zones.

Likewise, HEC mitigation methods used in Asian countries (Perera, 2009) include the use of physical barriers such as fences, use of vigilant methods to alert farmers of approaching elephants, use of deterrents to discourage elephants' passage into communities, use of repulsion methods to drive away elephants, conducting elephant drives, capturing and culling elephants, establishing compensation schemes and enhancing land use planning. Both Perera and Hoare provide similar methods however the take home message is that no one method can be used by itself to achieve conflict resolution; the measures are used as a 'package' (Hoare, 2001).

3.6 Current status of human-elephant conflict in Kenya

Elephants are known to cause the greatest number of human-wildlife conflicts in Kenya (Omondi et al., 2004). Common knowledge however dictates that elephants are central to tourism in Kenya as they generate significant earnings for the industry therefore aiding the economy (Kameri-Mbote, 2002). The downfall here is that close human-elephant interactions cause negative consequences to elephant populations in the country. These negative interactions create conflicts that are intensified due to issues such as loss of elephant habitats to human settlements caused by an increase in human populations living near protected areas, human encroachment onto elephant migratory corridors and dispersal areas as well as expanding agricultural activities (Naughton et al., 1999; Thouless et al., 2008).

The negative effects of these interactions are that elephants invade community farms raiding crops, causing death and injury to both humans and livestock (Okello et al., 2014). As a result of this, wildlife authorities in the form of the Kenya Wildlife Service rangers in a bid to protect human life kill these 'problem elephants' in retaliation due to the destruction they cause to human life. In addition, these elephants are killed illegally by local communities in response to damage caused (Omondi et al., 2004). This has led to the passing of new laws governing the illegal killing of elephants in light of their

conservation importance (FAO, 2015). This law passed in 2013 under the Wildlife Conservation and Management Act (WCMA) stipulates that any person found to have killed an elephant would be fined a penalty of Kshs. 20 million or face life imprisonment. The irony however is that this severe penalty is far more than the compensation offered for loss of life which amounts to Kshs. 5 million (Kaii et al., 2015) which further elevates the negative perception of the community on wildlife authorities.

Human-elephant conflicts according to Kiiru (1995) occur in most of the country's elephant ranges and between 1990 and 1993, the Kenya Wildlife Service under its Problem Animal Control (PAC) program had recorded 119 killings made by rangers attributed to conflict incidences. Likewise in the same period, human threats caused by elephants led to 108 deaths and 34 injuries. At the time, elephant populations ranged at approximately 24,000 (Kiiru, 1995) however over the past two decades, elephant populations have increased to about 35,000 which ironically causes an increase in negative interactions with humans (Litoroh et al., 2012). Therefore despite the increase, elephant mortalities due to conflicts have generally caused a decrease in populations (Thouless et al., 2008).

Elephants in Kenya face several threats that hinder their effective conservation; making their future uncertain. According to the Conservation and Management Strategy for the Elephant in Kenya (2012-2021), the future of African elephants is important for the Government of Kenya for several reasons. Among the five reasons described in the document is that elephants face intense conflicts with people outside of protected areas mainly due to crop raiding which affects the public's perception of elephants and their willingness to support conservation efforts (Litoroh et al., 2012). The issue therefore is that negative interactions between elephants and local communities create the unwillingness for these people to support elephant conservation efforts by wildlife authorities. The authorities therefore have the difficult task of balancing the needs of communities with those of the wildlife they are mandated to conserve (Hoare, 2012) while coping with the challenge of limited resources (Okello et al., 2014).

Kenya presents a good basis for this research due to the challenges faced by wildlife authorities in involving the community in conflict resolution. Moreover, Amboseli National Park presents a viable study location due to its history as the park with the most studied elephant populations in the world under the guidance of Dr. Cynthia Moss (Moss, 2011). Another reason for its viability is the presence of group ranches that surround the park where elephant populations extend their ranges due to the park's limited capacity. According to Okello et al. (2014), the Maasai community lives in harmony with the elephant in spite of the communities' rite of passage ceremony that in the past involved young men spearing elephants (Thouless et al., 2008).

Conflicts between the elephants and local communities are however inevitable in these regions causing crop raiding incidences that thereafter lead to retaliatory attacks. The future of these elephant populations is therefore dependent on cooperation between KWS and these group ranch communities (Thouless et al., 2008). This research therefore seeks to determine what constitutes good conflict management by evaluating whether HEC resolution programs in Amboseli are effectively achieving reconciliation between elephants and local communities.

Chapter 4

4. METHODS

4.1 Introduction

A qualitative research design method was employed in conducting this study. A qualitative method offers the best means of collecting and analyzing interpretive data (Neuman, 1999). For this research, face-to face interviews using semi-structured questions were undertaken with three separate groups; park managers, community leaders and NGOs currently involved in the human-elephant conflict at Amboseli National Park. The interviews were recorded using detailed note-taking for later analysis. This chapter gives an overview of the methods used in the selection of the study site, the sampling method used to recruit participants, interview questions used during interviews and how data was recorded and analysed.

4.2 Study Site Access and Consent

Amboseli National Park was selected as the best site to carry out the study on the human-elephant conflict situation in Kenya since literature available presented substantial information regarding the issue. This was made credible by information provided by a contact person at the park informing that the park faced several challenges regarding management of the conflict situation at the park as compared to other national parks. This provided a basis for assessing the situation on the ground to determine the extent of these challenges.

The Kenya Wildlife Service national headquarters in Nairobi was contacted to gain consent to interview Amboseli park managers. Before giving permission, KWS requested additional information including a formal letter of request, copy of the project proposal and interview questions. These were provided along with payment of a fee (AU\$25). A permit letter authorizing the project was granted for a one year period on the condition that copies of the final dissertation were provided to KWS.

4.3 Sampling

A purposive sampling method was used to select the interviewees for this research. This method, borrowed from Neuman’s (1999) qualitative sampling approach is used by a researcher targeting key people who have important insights and information regarding the focus of research. In this case, specific participants to be interviewed were selected based upon their knowledge and involvement with the human-elephant conflict situation in Amboseli (Table 4-1). These participants were grouped into three types; the community leaders, Kenya Wildlife Service (KWS) park managers and NGOs/Associations based in the park.

Table 4-1: The number of interview participants according to each category

Interview Group	Type of Interview Participants	Number of Participants
Government	Park Managers	4
NGO/ Association	Officers & Representatives	2
Local community	Community Leaders	7

The recruitment of these participants was determined by the park’s management whereby on arrival at the study site, I was directed to the head manager at the park to receive accreditation to begin the interview process. The manager then went ahead to provided names and contact information of potential participants who were contacted via phone and informed about the purpose of the interviews and upon consent to be interviewed, were selected to participate. An agreement was also made on a meeting place and time for the interviews convenient for the participant. Specifically, I contacted 3 participants from KWS and 3 from IFAW, ATGSA and Big Life Foundation. All

participants consented to be interviewed however due to difficulty in accessibility; I was unable to hold an interview with the participant from Big Life Foundation.

A snow-ball sampling method (Neuman, 1999) was used to identify any additional people who were required to be interviewed. At the completion of each interview, respondents were asked if they could recommend anyone else that should be interviewed. This enabled identification and contact with additional community leaders, hence this method worked to identify a more extensive sample group within a network (Neuman, 1999). A total of seven community leaders were therefore selected to be interviewed.

Neuman (1999) notes that the interview location is important because it influences the participants' responses to questions; it is therefore important that he or she is comfortable and in their own natural setting. Consequently, interviews were conducted onsite at Amboseli National Park and one of the group ranches surrounding the park. Most interviews took place in the group ranch known as Olgulululi/ Olarrarashi Group Ranch. Interviews with KWS staff, ATGSA and IFAW representatives were carried out in their respective offices within the park. This was done to ensure the interviewees were not inconvenienced and felt at ease from being in their own environment.

As a prerequisite, I was required according to the permit letter to work closely with the Senior Scientist in the Research Department who would provide guidance. However in his absence; I was directed to the Deputy Scientist who was invaluable to the research as he provided insight into the conflict situation in Amboseli including measures being taken by the park to combat the conflict issues.

4.4 Interview Question Design

During the interviews, I employed the use of semi-structured open-ended interview questions. The questions were tailor-made for each group to help identify main issues associated in managing the human-elephant conflict. These questions were structured according to each of the group's roles as well as their experiences with the conflict. The roles of these groups were roughly pre-determined during a literature search on the

management of Amboseli National Park. The questions were also designed in such a way to encourage the interviewee to provide the required information.

A mixture of descriptive and structural questions was included in the interview questions. Descriptive questions were used during the early stages of the interview to explore the setting of the case study area and learn about the members being interviewed. An example of the questions to the community leaders included: ‘In which community ranch are you a leader of?’. On the other hand, structural questions were used to analyse the situation being studied. An example being : ‘Are you aware of any conflict resolution programs running in the park?’. Interviews involved a friendly exchange which helped the interviewee to open up further.

Questions were mainly structured to help answer the research questions whereby I was seeking to determine among others the current status of elephants in the park, the current status of the community-elephant conflict situation in the park, if human-elephant conflict resolution programs are run in the community, the challenges faced in trying to run the programs in the community, the benefits that the program offers to the community and evaluate whether the programs are helping achieve reconciliation between the elephants and the local community.

4.5 Data Recording

Three kinds of note-taking were used including direct observation notes, interview notes and researcher inference notes (Neuman, 1999). Direct observation notes were undertaken to record in detail what was said and seen during the field work. Interview notes were the main means of recording information gathered during the interviews whereby the date, time and place of each interview were noted. In certain circumstances, I used inference notes to try and work out the actual meaning of the gathered information either from the study site or the interviews. Manual recording was a tool used to supplement note taking only when she needed to recall important information that could be missed while taking notes. Primarily, a total of 11 interviews were recorded by use of note taking while 2 interviews were audio recorded. Note taking

allowed the researcher to go into descriptive detail especially within the context of the study setting.

Interviews were conducted in the English and Swahili languages as well as in the local dialect. During interviews with the seven leaders of the community, assistance from translators was required to transcribe information. These translators acted as field assistants to the researcher and being members of the same tribe with the community were able to directly transcribe information gathered onto paper as they conversed with the community leaders. The other six participants who were representatives from the park management and NGOs spoke in the English or Swahili language and were able to be interviewed by the researcher.

The interviews were carried out over a one week period between 21st and 27th January 2016 on site in Amboseli. A total of 13 interviews were completed with the three groups and recordings transcribed for analysis.

4.6 Data Analysis

Qualitative data analysis was employed to highlight the recurrent themes in each of the interviews done and to evaluate the respondents' perceptions. Coding was employed to identify key themes present whereby emerging patterns were identified (Neuman, 1999). These themed responses were then tabulated against a selection of questions asked in all groups.

4.7 Ethical Consideration

This research project was conducted in line with the National Statement on Ethical Conduct in Human Research and gained approval from the Murdoch University Ethics Committee (Approval 2015/ 217). Prior to conducting interviews, I provided copies of the information letter and tick box consent forms to the respondents as required by the Committee. The information letter detailed the purpose and objective of the study allowing the participant to be aware of the exact reason for conducting the study while the consent forms allowed participants to show consent in being interviewed.

Chapter 5

5. RESULTS & DISCUSSION

This section presents the qualitative evidence collected from the research and discusses the findings with the aim of answering three of the research questions.

- Are conflict management programs effectively achieving reconciliation between elephants and local communities?
- What challenges are faced by these programs in trying to achieve this?
- What constitutes good practice conflict management?

5.1 Introduction

Interviews carried out during the field study involved three different groups: the Community leaders, the Kenya Wildlife Service managers and officers from NGOs/Associations. Interview sessions were conducted over a one week period in different locations dependant on the participant's preferences. These groups were selected due to each of their experiences with human-elephant conflict in Amboseli National Park. The community is the affected party in conflict with elephants; the managers are the authority in charge of conserving and protecting the elephants and the NGOs are the supporting groups who help fund and run conservation projects in the community.

Questions asked in the interviews were tailor-made for each group but all directed towards answering the research questions. Semi-structured interview questions were used where each question asked contained its own set of subsequent questions. The questions were answered depending on the respondent's knowledge of the matter. Some questions were answered with more emphasis while others were partially answered and some were not answered at all.

5.2 Interviews with Community Leaders

Communities living adjacent to Amboseli National Park are directly affected by human-elephant conflict. These communities live in 7 group ranches surrounding the park and are each led by a set of community leaders. These leaders have various roles in the community but first and foremost take care of the interests of the people. They mediate when conflicts arise between the community and park authorities and also welcome and provide tours for tourists that visit their village where money paid goes into the community. In selecting participants to interview from the community, community leaders were the preferred choice due to their role in their community.

Interviews were held with seven leaders from 2 out of the 7 group ranches. These two ranches acted as representatives of the other ranches since difficulty of access, time constraint and financial limitations prevented contact with the other ranches. The meeting was facilitated by the community leader from the Kimana Group Ranch whom I was introduced to by a contact person in the community. The leader acted as a guide and link to the community leaders of Olgulululi Group Ranch.

The meetings were held in both ranches and lasted approximately between 30 and 45 minutes with each leader. In some instances, the interviewee provided information outside the borders of the interview questions which provided a wider understanding of the situation. Since these leaders were on average between 40 and 60 years old, the weight of their responses combined provided great insight to the research and therefore, the limited demographic was not a hindrance to the research.

Summary of Responses

According to the community leaders, elephants in Amboseli are numerous ranging in the thousands and in many cases travel very close to their homes. The Maasai live in harmony with the elephants however negative interactions between the elephants and people cause conflicts to occur. This occurs frequently during the dry season when the elephants move out of the park towards Mt. Kilimanjaro passing through the group ranches.

Conflicts occur in the form of raids in the community farms where in many cases, male elephants frequently venture into the farms destroying crops and property. This is due to the presence of a plantation zone in the ranches where farms are irrigated and which attracts the elephants. In some cases, elephant raids cause injury or even death to both people and livestock. The loss of livestock which is a cultural heritage for the Maasai people have led to retaliatory attacks in the past.

“One elephant can eat and destroy crops within a 5 acre piece of land”: community leader2

The Maasai according to one leader also used to spear elephants as a form of rite of passage. This cultural responsibility was done by the ‘morans’ who are guardians of the Maasai people aged between 15 and 25. The belief was that killing a wild animal such as an elephant would show strength as a warrior capable of protecting the community. However, due to the introduction of stringent measures by the government on anyone found to have killed an elephant as well as awareness of the importance of elephant conservation, the community now complies with the law and informs the KWS officials once conflicts occur.

“Once an elephant has killed a human being, they are likely to kill again”: community leader 2

The community however feels victimized in cases where retaliatory attacks occur in the community where the officials of KWS treat them harshly. They are also of the opinion that the laws passed in 2013 under the Wildlife Conservation and Management Act are unfair since any person found to have killed an elephant would be fined Kshs. 20 million (equivalent) or face life imprisonment. This they say is far more than the Kshs. 5 million (equivalent) offered as compensation for loss of a life. Furthermore, the compensation takes too long to be given to the deceased’s family. Compensation for loss of crops or damaged property they say is completely unavailable.

According to the leaders, conflict resolution programs run by KWS do not involve the community but focus on wildlife conservation and therefore feel they do not benefit

from the programs. The community is however aware of the efforts of the ATGSA in integrating ‘morans’ as game scouts to protect the elephants instead of spearing them. The community is also aware of the work done by IFAW to involve the community in their program to secure elephant corridors by leasing community land from them. These organizations also provide benefits to the community such as providing bursaries and building schools.

Theme Responses

Out of the eight questions asked, four main questions were answered by each of the leaders and are summarized below (Table 5.1).

Table 5-1: Themed responses from community leaders derived from the main interview questions

Respondents	Main Interview Questions	Themed Responses/Opinions
Community Leaders	<p>1. If HEC resolution programs are working alongside the community</p> <p>2. Challenges faced in running the programs in the community</p> <p>3. Benefit of the programs to the community</p> <p>4. If HEC resolution programs are helping achieve reconciliation</p>	<p>1. NGOs and not KWS involve the community in programs.</p> <p>2. Attitude of community towards KWS:</p> <p>-The park authorities enforce unfair laws.</p> <p>-Locals are victimized when retaliatory attacks on elephants occur.</p> <p>-Compensation for damages is either insufficient or not received.</p> <p>3. NGOs run CSR projects in the community i.e. bursaries and building schools</p> <p>4. NGOs are achieving reconciliation but it is not very effective due to communication issues experienced between park and community</p>

5.3 Interviews with NGOs and Associations

NGOs play an important role in conservation of elephants. These organizations support the work done by the government through funding and running conservation projects

together with the community. This group was selected for this research due to the influence they have in the community in trying to achieve reconciliation between the people and elephants. Associations are equally involved with the community; however they perform nearly equal tasks with the government. Two groups were selected for interviewing which included one NGO and one Association.

Interviews were held with two representatives; one from the International Fund for Animal Welfare (IFAW) and the other from the Amboseli-Tsavo Games Scout Association (ATGSA). Contact with the two was facilitated by the Deputy Warden since the park works in partnership with the two organizations. A third organization, Big Life Foundation was suggested for interviewing however, difficulty in access prevented an interview from taking place. Interviews with the two representatives were held in the organization's respective offices and lasted approximately 1 hour with each officer. Once more, despite the limited demographic, the interviews provided good knowledge of the conflict situation for the research.

Interviewed Participants

The first interview was held with the Coordinator of the ATGSA whose role involves coordinating all activities of the association and running the headquarters in Amboseli. The ATGSA is an association that was started in 2003 as a body for the coordination of wildlife conservation in the group ranches of Amboseli through the use of game scouts from all group ranches. The association works together with the PAC Unit from KWS to prevent or reduce conflicts between locals and wildlife such as elephants. The game scouts perform on-foot patrols in the park and group ranches in order to monitor the elephants and report conflict incidences.

The second interview was held with the Project Officer of IFAW at its Amboseli offices whose role involves overseeing and running projects in the park. IFAW is an NGO that was founded in 1969 and conducts projects around the world for the protection of all animals; the elephant being central to its operations in Amboseli. It has since 2011 been in partnership with KWS and have their offices situated at the Amboseli KWS

Headquarters. This partnership enables the running of several programs within Amboseli aimed at elephant conservation.

Summary of Responses

According to ATGSA, elephant populations have increased in the park with over 2000 elephants that belong to 53 families as of 2015. Conflicts are therefore inevitable and occur most of the year in plantation zones where crops are grown in rain-fed agriculture between January and June and water-fed agriculture between June and November. Most of the crops affected during raids include maize, tomatoes, beans and water melons which elephants enjoy. The association had already reported 70 incidences of crop damage between June and November 2015 where 3 elephants were killed by authorities in retaliation and 18 reported to have been speared by locals. Retaliatory attacks according to the respondent occur due to slow responses from park authorities regarding compensation of damage caused by the elephants.

“Elephants are dangerous as a single one can destroy an entire year’s crop in one sitting to the value of millions of shillings.” : Coordinator, ATGSA

The ATGSA carries out operations geared at protecting wildlife and preventing or controlling conflict situations between the elephants and local communities living in the group ranches. Its conflict resolution program involves allocating game scouts to wildlife dispersal areas where elephants are located for monitoring. The association also liaises with the authorities from the neighbouring country Tanzania to ensure elephants that cross the border are guarded against conflict issues. Furthermore, the association conducts workshops with the community to create awareness about elephant conservation.

IFAW is also involved with protecting elephants through conducting its activities with the community and runs its programs in partnership with KWS. It is involved in several programs that include: installing collars on elephants to monitor elephant populations and prevent them from crossing into conflict hotspots, training KWS game rangers, securing elephant corridors through leasing 16,000 acres of land from the Olgulululi

Ranch owners to develop it into a conservancy aimed at conserving elephant habitat. Through its partnership, IFAW has also provided vehicles to KWS to facilitate patrols and infrastructure such as office buildings to aid administrations.

Game scouts employ several effective strategies when scaring away elephants from farms including using deterrents such as thunder flashes since the loud sound scares elephants, pepper bullets since elephants do not like chilli, flash lights that chase away elephants, bee hives placed around fences to keep them away and electric fences to prevent them from crossing into community land. The ATGSA involves the community in conflict prevention by hiring an informer to help report conflict incidences in the community using mobile phones and GPS equipment. They also educate the community on conflict prevention techniques as well as create awareness on conservation. Apart from conducting programs within the community, IFAW also help promote alternative livelihoods of the community by providing bursaries for scholarships towards educating members of the Olgulululi Group Ranch. The organization also conducts CSR projects in the community including water drilling, grading roads, provision of scholarships and training rangers.

The ATGSA is sponsored by the African Wildlife Foundation and has partnered with several NGOs such as IFAW, Big Life Foundation and Amboseli Trust for Elephants which provide donations that are used to run projects in the community. Projects include provision of bursaries, digging water pans, building dispensaries and providing scholarships for needy students. The association also offers employment to the local 'morans' under the Moran Education Initiative where they are trained to become game scouts. The initiative also organizes sport events known as Maasai Olympics for the 'morans' which are held annually where winners receive prize money and livestock. Furthermore, the 'morans' are educated and some are funded for travel abroad to pursue further studies. End of the year awards are also given for motivation and the 'moran' leader is provided with a monthly salary facilitated by the association.

Meetings are held regularly in the community with the ATGSA but mostly when security and land issues occur. Meetings between IFAW and the community also

occur regularly during market days where issues regarding conflicts are mostly discussed. The community responds positively to the meetings due to the good relations between the community and the organizations. These organizations however face several challenges that prevent them from providing effective reconciliation. These include: political interference in projects that prevent conservation efforts, the use of customary self defense weapons such as spears by the Maasai in the face of elephant attacks, lack of sufficient funding to run programs, shortage of staff, negative interactions caused by land subdivision, fencing off land that blocks elephant migratory routes and dispersal areas, destruction of elephant habitats by locals to create settlements and farms and burning trees for charcoal, logging and firewood, slow response from government departments, lack of community empowerment for conservation and occurrence of cross-border conflicts. Despite these challenges, both organizations due to good relations between them and the community are able to help achieve reconciliation especially filling in the gaps for the park management.

Theme Responses

Four main questions were answered by each of the representatives and are summarized in Table 5-2.

Table 5-2: Themed responses from NGOs/ Associations derived from the main interview questions

Respondents	Main Interview Questions	Themed Responses/Opinions
NGOs/ Associations	<ol style="list-style-type: none"> 1. If HEC resolution programs are working alongside the community 2. Challenges faced in running the programs in the community 3. Benefit of the programs to the community 4. If HEC resolution programs are helping achieve reconciliation 	<ol style="list-style-type: none"> 1. Conducts several HEC resolution programs within the community. 2. Main challenges include: <ul style="list-style-type: none"> -Political interference -Lack of funds and shortage of staff. -Negative interactions that cause conflicts -Lack of community empowerment on conservation. 3. Perform CSR projects that offer benefits to the community. 4. Helping achieve reconciliation and filling the gap for the park

5.4 Interviews with KWS Managers

The Kenya Wildlife Service is a state corporation that was established in 1990 to conserve and manage wildlife in all protected areas in Kenya including national parks such as Amboseli. The managers of Amboseli National Park each play a role in protecting and conserving the elephants of Amboseli. They were therefore selected for interviewing due to their direct involvement with the conservation of the elephants as well as their role in preventing and controlling human-elephant conflict. Interviews were held with 4 managers from Amboseli National Park who included the Deputy Warden, the Deputy Scientist in charge of the Southern Conservation Area, the Community Warden of Loitokitok region and the Warden in charge of the Problem Animal Control (PAC) Unit.

Three of the participants were selected with the help of the Deputy Warden who was instrumental in providing contacts of the other potential participants. The meetings took place in the office headquarters of the park and lasted approximately between 1 and 1 ½

hours with each manager with the exception of the meeting with the Deputy Warden which was shorter. The length of time during interviews was due to the wealth of information provided where once again the limited demographic did not hinder the research.

Interview Participants

The first interview was with the Deputy Warden who is second in command overseer of the park. The interview did not take the form of the other interviews as interview questions were not asked. The Warden gave a formal introduction of the park highlighting the park's role in elephant conservation in light of the research that has been done on Amboseli elephants for over forty years under the leadership of Dr. Cynthia Moss. He then directed me to speak to three managers working in different departments who would assist further with interview questions.

The second interview with the Deputy Scientist provided a basis for the conflict situation in Amboseli. The Deputy Scientist heads the Research department in the park headquarters which among other roles is involved with the conservation of elephants in the park. The department among other things runs conflict resolution programs in partnership with the PAC Unit, the Patrol team and NGOs situated at the park. The department monitors elephants to determine population dynamics; it facilitates aerial patrols once a week to help establish migratory patterns, assesses determinants that make elephants move from the park to surrounding ranches and identifies elephant corridors utilized during the dry and wet seasons.

The third interview was with the Community Warden who is the link between the community and the park and has jurisdiction over the entire Loitokitok district where Amboseli lies. The warden has earned the trust of the community and is therefore involved in any activities that require involvement of the community. The main role of the warden with regards to elephant conservation is to engage the community in programs that help prevent and control conflicts. These programs involve creating awareness about elephant conservation and educating the community on the use of farm

deterrents. Other roles include overseeing CSR projects in the community and assessing the damage on crops as well as providing claim forms for compensation.

The fourth and last interview was with the Warden in charge of the PAC Unit. The Unit is entirely field-based as its job involves daily foot and vehicle patrols to monitor the entire ecosystem. It is the response team during conflict incidences reported in the park and surrounding ranches. It is therefore a program by itself since its duties are aimed entirely at preventing or reducing conflict situations and works in partnership with the ATGSA game scouts to patrol the entire Amboseli perimeter.

Summary of Responses

Amboseli National Park according to the managers has a high incidence rate for conflict issues between elephants and the local community due to the park's proximity to community group ranches. Elephants require roaming space that the group ranches provide since the park's carrying capacity cannot hold the entire population of approximately 1500 elephants. Conflicts occur mostly during the dry season and especially in February due to irrigation farming that causes elephants to raid farms due to the enticing crops grown. This causes loss and damage to crops, property and sometimes life. This is attributed to the infiltration of other tribal communities in the Maasai land who practice irrigation farming. These communities also cause land use changes through land subdivision. This coupled with settling on migratory corridors causes elephants to cross through the land causing conflicts. Another major reason for conflict is the intrusion of livestock into the park for grazing where community members overstretch the opportunity provided by the park for livestock to access water in the park. A quarterly report by the PAC Unit provided during one interview for the months between October and December 2015 showed that elephants are the highest ranked conflict species in the park (Table 5.3). The report also showed that human threat and crop damage were the highest recorded incidences (Table 5.4).

Table 5-3: Number of conflict incidences per animal species experienced during October-December 2015 quarter (**Source:** Amboseli National Park Problem Animal Control (PAC) Quarterly Report Oct-Dec 2015)

Wildlife Species	Number of conflicts
Elephant	141
Zebra	17
Giraffe	10
Eland	6
Grant Gazelle	5
Lion	5
Hyena	3
Wildebeest	2
Baboon	1
Cheetah	1
Jackal	1
leopard	1
Thompson Gazelle	1
Warthog	1
Grand Total	195

Table 5-4: The nature of conflicts experienced against the number of reported conflict incidences experienced during October-December 2015 quarter as per animal species (**Source:** Amboseli National Park Problem Animal Control (PAC) Quarterly Report Oct-Dec 2015)

Conflict Nature	Number of cases reported and attended to per conflict animal species										BAB	LEP	WT	WB	TH	Total
	ELE	EL D	GR	HY	L N	JK	ZB	GG	CH							
Human Threat	96	4	6	1	1	1	17	5	0	0	0	1	2	1	135	
Crop damage	27	0	0	0	0	0	0	0	0	1	0	0	0	0	28	
Property destruction	15	0	0	0	0	0	0	0	0	0	0	0	0	0	15	
Wildlife death	2	1	4	0	2	0	0	0	0	0	0	0	0	0	9	
Livestock predation	0	0	0	2	2	0	0	0	1	0	1	0	0	0	6	
Wildlife illness	1	1				0							0	0	2	
Human death	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Grand Total	141	6	10	3	5	1	17	5	1	1	1	1	2	1	195	

“Elephants raid farms especially at night to feed on the crops they enjoy”: Warden,
PAC Unit

Several conflict resolution programs are run in the park by the Research department in partnership with the PAC Unit where on-foot and vehicle patrols help determine migratory routes. Other programs include the Elephant Monitoring Program ran in partnership between KWS, IFAW and the School of Field Studies where 12 elephants were successfully collared in 2012 and 2013 to monitor their movements in the Amboseli ecosystem and therefore determine areas the elephants are likely to be in danger of conflict situations. A third program also done in partnership between KWS and IFAW involves securing elephant migratory corridors by leasing 16,000 acres of land from the Olgulululi Group Ranch members to help set aside elephant habitat and thus protect elephants from conflict situations.

The managers use several strategies to control and prevent conflicts in Amboseli. These include: using farm deterrents to scare away the animal, creating awareness and educating the locals on elephant conservation, assessing damage on crops and issuing compensation forms, conducting CSR projects in the community, having cross-border meetings with Tanzania counterparts due to elephant migration, monitoring elephant populations using collars and aerial patrols, enforcing laws on elephant hunting and facilitating on-foot patrols over the entire ecosystem. Another strategy used involves using an informer from each community ranch selected to report conflict incidences that occur in the community via phone and using GPS therefore ensuring the management intervenes in conflict situations before any further issues arise.

Meetings held between KWS and the community is facilitated by the Community Warden and occurs four times in a month during market days. These meetings are geared towards enhancing relations between the community and the park management which is poor due to the negative notion the community has of uniformed personnel. During meetings, issues regarding conflict are discussed and solutions are sought. KWS carries out projects in the community such as provision of bursaries, water supply and fuel to run boreholes and fix damages made by elephants on the boreholes. However, the

challenges experienced in trying to achieve reconciliation outweigh the benefits of running the programs and projects in the community. These challenges are numerous and include: slow responses to compensation matters causing loss of trust, increasing human and elephant populations, agricultural activities such as irrigation farming, subdivision of land, political interference in conservation, and shortage of staff, limited funds and the community’s negative perception of the park management all hinder effective conflict resolution.

Theme Responses

Four main questions were answered by each of the managers and are summarized in Table 5-5.

Table 5-5: Themed responses from KWS managers derived from the main interview questions

Respondents	Main Interview Questions	Themed Responses/Opinions
KWS Managers	<ol style="list-style-type: none"> 1. If HEC resolution programs are working alongside the community 2. Challenges faced in running the programs in the community 3. Benefit of the programs to the community 4. If HEC resolution programs are helping achieve reconciliation 	<ol style="list-style-type: none"> 1. The park partners with NGOs to run HEC resolution programs in the community. 2. Challenges faced outweigh benefits of programs i.e. <ul style="list-style-type: none"> -Limited resources: shortage of staff and funds -Negative perception of the park management -Land use changes i.e. irrigation and subdivision of land -Slow response to compensation 3. Educates the community on HEC control and prevention strategies. 4. Not effective due to issues experienced between park and community

5.5 Discussion

This section highlights the various challenges identified from the interviews and evaluates whether conflict resolution programs in Amboseli are effectively achieving reconciliation. Thereafter, good practice conflict management is identified.

5.5.1. Challenges in HEC Resolution

a) Negative Interactions

The Maasai community in Amboseli is known to live in harmony with elephants (Okello et al., 2014) however the irony here is that in the past, a cultural rite of passage required the spearing of these same elephants by ‘morans’ (Thouless et al., 2008) . The difference however lies in the fact that currently, factors such as increased human populations that settle on migratory corridors, loss of elephant habitats and land subdivision (Perera, 2009) have elevated negative interactions. Furthermore, there has been a cultural shift towards conserving the elephants by the same ‘morans’. These negative interactions however cause conflicts that lead to crop raids which cause the community to develop a negative attitude towards the elephants and conservation in general (Okello, 2005).

b) Compensation Challenge

Compensation for damage caused by elephants is one among many suggested mitigation measures for conflict management (Hoare, 2015). Findings from the interviews with community leaders showed that the community expects KWS to reimburse them for the damage and threat caused by elephants on their crops, property and lives. The leaders expressed their dissatisfaction with the wildlife authorities in handling compensation matters whereby they are either inadequate or non-existent (FAO, 2015). Park managers on the other hand expressed challenges with adequate resources that prevent effective conflict management.

It is therefore safe to say that the wildlife authorities may not be at fault since this issue culminates in an even bigger challenge with adequate funding rather than unwillingness to provide compensation to the community (FAO, 2015). The community’s focus on

compensation however is called for especially in light of the extensive damage caused by elephants and the fact that compensation offered for loss of life is not proportion to the loss caused (Kameri-Mbote, 2005). This issue should therefore be addressed further since it is among the greatest challenges facing the wildlife authorities at Amboseli from achieving reconciliation.

c) Poor Relations

According to the community, they do not harbor good relations with the park management since KWS enforces unfair laws on the community and treats the community harshly once retaliatory attacks occur in the community. The new laws passed in 2013 under the Wildlife Conservation and Management Act stipulate that any person found to have killed an elephant would be fined a penalty of Kshs. 20 million or face life imprisonment. This law according to the community is unfair since the penalty is far more than the Kshs. 5 million offered as compensation for loss of a life (Kaai et al., 2015). These issues coupled with the compensation challenge create mistrust in the park authorities therefore causing unwillingness by the community to support the wildlife authorities in conservation matters. This is another issue that needs to be addressed since it also causes a hindrance to elephant conservation and conflict resolution (Litoroh et al., 2012).

d) Difference in Opinions

There is a definite difference of opinions between the community and KWS managers in that the community believes that KWS is not doing all it can for HEC resolution. The managers however are of the opinion that they are doing all they can with the limited resources (Okello et al., 2014) available including shortage of funding and staff that hinder effective management. The community also claims that KWS is more focused on elephant conservation and does not involve the community in its programs. This is voiced by (FAO, 2012) in that wildlife authorities tend to enforce conservation policies aimed at protecting the wildlife especially in the case where the species is of significance. On the other hand, the community is of the opinion that NGOs involve

them in conflict resolution programs. This begs the question whether the managers are actually involving the community in their reconciliatory programs as they claim. The answer lies in the fact that while KWS partners with NGOs such as IFAW to conduct resolution programs with the community, in the eyes of the locals, they are not trustworthy. According to Hoare (2012), wildlife authorities have the daunting task of striking a balance between the needs of human and wildlife they are mandated to protect. This coupled with the lack of resources impedes their abilities to completely involve the community in conservation.

e) Communication Difficulties

Uncoordinated meetings with communities are held separately by both the KWS and NGOs and often in the likelihood that a conflict event has occurred. This creates different expectations for the community from both the park authorities and NGOs reinforced by the benefits accrued from the NGOs against the harsh laws enforced by park authorities. Furthermore, the community's fear of uniformed personnel and mistrust of park authorities in general contribute to the difficulty KWS has in achieving reconciliation. The flow of communication between the three groups is mostly one-sided and there is a lack of share of knowledge (Figure 5.1). These communication gaps need to be fixed and channeled towards the common goal of achieving reconciliation. There is therefore a need for collaborator meetings to harness 'one voice' for better communication of issues faced and joint efforts towards conflict resolution.

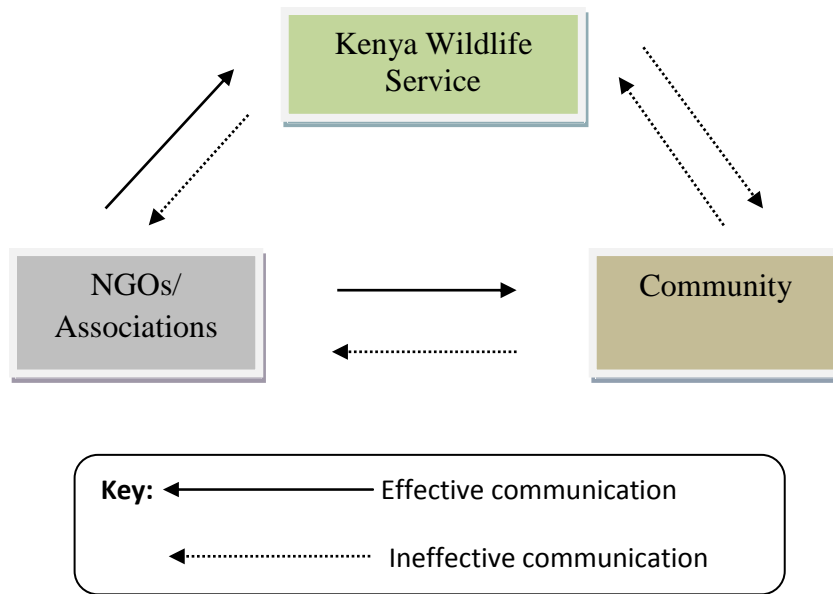


Figure 5-1: Flow of communication between the Kenya Wildlife Service, the NGOs/Associations and Community

5.5.2. Are Programs Achieving Reconciliation?

Conflict Resolution Programs in Amboseli from this study research are not effectively achieving reconciliation. The main challenge hindering this is the lack of compensation for damage caused by elephants in the community. This reinforces the negative attitude that the community has towards the park authorities. The communities mistrust towards the wildlife authorities and elephants create unwillingness to support initiatives that the park management brings forward for conflict resolution and elephant conservation. This is further reinforced by the park’s own challenge of shortage of resources which limits them from achieving effective reconciliation. While the NGOs based at the park are filling in the gap for the park management in terms of providing funding, the authorities are still mandated to protect the elephants by involving the community in its programs. However, presence of communication gaps has been identified as an unnecessary challenge which requires to be fixed if the common goal of achieving reconciliation is to be reached.

5.5.3. Good Practice Conflict Management

This research study main aim is to identify good practice conflict management. This type of management seeks to identify effective methods of achieving reconciliation between elephants and the community. Since the future of elephant conservation depends on cooperation between the park authorities and the community (Thouless et al., 2008), it is critical that the community is integrated into conflict resolution programs.

Information gathered from this study shows that challenges that impede effective reconciliation all occur due to the lack of proper communication channels and collaborative efforts between the community, park authorities and NGOs. Therefore, good practice would therefore be to establish proper communication channels between the community, NGOs and KWS. An open communication channel would therefore create an abundance of shared knowledge between the three groups and would go a long way to address better the identified challenges facing the programs. Furthermore, once communication is opened, collaborative efforts can be made on employing mitigation measures that cause significant reduction in human-elephant conflicts in the park.

CHAPTER 6

6. CONCLUSION

6.1 Overview of Research

This research study through a review of literature provided an overview of the conflict situation in Asia and African countries with a look at the causes of conflict and management practices in place. It also answered the research questions by determining the status of HEC in Kenya and identifying challenges that impede the achievement of reconciliation between elephants and local communities in Amboseli. Furthermore, the study established that due to these challenges, conflict resolution programs were not proving effective. The study therefore identified good practice management as establishing proper communication channels that would create an abundance share of knowledge between the park authorities, NGOs and community and collaborative efforts towards achieving effective reconciliation.

6.2 Limitations to the Study

a. Single study area

HEC is experienced in several areas parts of the Kenya and Africa. However, this research identified one area as a study site. This was however done with the knowledge that conflict issues experienced in this site are similar to other regions in Kenya and Africa.

b. Small sample size

The sample size for this research study involved 13 individuals. However, this was countered by the in-depth interview technique that was used to derive necessary information.

c. Inaccessibility of some areas during field work

An interview that was to take place with a potential participant in Big Life Foundation was hindered due to bad weather conditions.



Figure 6: *Muddy conditions prevented access to a potential interview site (Source: self)*

d. Time and budget constraints

The field research was done over a one week period due to limiting time factors as well as budget constraints that prevented a further stay on site.

6.3 Future Research Recommendations

The research findings identified lack of compensation as the biggest hindrance to effective reconciliation. In light of the severity of the impact of conflicts on local communities, it's easy to see why reimbursement for loss is important to them. Further research is therefore required to address this issue in-depth especially since the future of elephant conservation in Amboseli is dependent on the community. Moreover, this might go a long way to change the negative perceptions of the community on wildlife authorities and elephants.

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Appendices

Appendix A- Interview Questions: Community Leaders

- 1 a) In which community ranch are you a leader of? (Give name)
- b) What is your role as community leader?
2. a) What is your view of the current status of elephants in Amboseli National Park?
- b) Do conflicts occur between the elephants and your community?
- 3 a) Are you aware of any conflict resolution programmes running in the park?
- i) If yes, name them.
- b) Do the programmes work alongside your community to achieve reconciliation?
- c) What is the role of the community in the running of these programmes?
- d) Do you think these programmes offer any benefits to the community?
- i) If yes, what are they? ii) If no, why?
4. a) (i) Are there any projects run by these programmes together with the community?
- ii) If yes, which ones? (Give names)
- b) i) Are these projects helping achieve reconciliation?
- ii) If yes, how?
- c) What are the challenges faced in running these projects within the community?
5. a) How often do you conduct meetings with your community in regards with conflict resolution? (i.e. weekly/ monthly/ semi-annually/ quarterly/ yearly)
- b) How does the community respond?
7. a) In your opinion, do the strategies in place help prevent conflict between the elephants and the people?
- b) If not, what do you suggest should be done?
8. Do you have any additional remarks?

Appendix B- Interview Questions: NGOs based in the Park

- 1 a. Briefly describe your partnership with Amboseli National Park
- b. What is the role of your organisation in this partnership?
- 2 a. What is the role of your organisation with regards to elephant conservation?
- b. What is your view of the current status of the human-elephant conflict in Amboseli?
- 3 a. i) Are you currently running an elephant-local community conflict resolution program in Amboseli? (YES/NO) ii) If yes, give the name
- iii) For how long has this program been in operation (Years)?
- iv) What are the roles of this program?
- 4 a. i) Do you involve the community in the running of the program? (YES/NO) ii) If yes, how does the community respond?
- b. i) What strategies do you have in place to prevent the conflict between elephants and the community? (List them) ii) How do you enforce them?
- c. i) How often do you conduct meetings with this community? (i.e. weekly/ monthly/ semi-annually/ quarterly/ yearly)
- ii) How does the community respond?
- d. What are the challenges faced in running this program within the community?
- e. What benefits does this program offer to the community?
- 5 a. Do you run any projects together with the community? b. If yes, which ones (Give names)
- c. How are these projects helping achieve reconciliation?
- 6 a. i) Do you perform audits of the program to ensure it is effectively achieving reconciliation? ii) If yes, how often?
- b. Who performs the review?
- c. i) Is the feedback given reported to the staff?
- ii) If yes, do you make changes to the program if necessary?
- 7 a. Generally, how does this program effectively achieve reconciliation?
- b. What more do you think your organisation could do for elephant conservation with regards to conflict resolution? c. Do you have any additional remarks?

Appendix C- Interview Questions: KWS Managers

1. Do you work for Amboseli National Park? (YES/NO) b) If yes, for how long have you worked there (Years)?
2. a) What is the current population of elephants in the Park?
b) What is your view of the current status of the human-elephant conflict in Amboseli?
c) i) Are there conflict resolution programmes in place? ii) If yes, name a few.
3. a) Are you involved in the running of any of these conflict resolution programmes? b) If yes, which one? (Give name) c) What is your role in this programme?
4. For how long has this programme been in operation (Years)?
5. a) Does this programme run in partnership with another organization? b) If yes, which one? c) What is its role?
6. What are the roles of this programme pertaining to human-elephant conflict resolution?
7. a) What are the strategies in place to prevent conflict between elephants and the people? b) How do you enforce them?
8. a) i) Do conflicts occur between the elephants and any nearby local community?
ii) If yes, does it border the Park? iii) What is the name of the community?
iv) Does the programme work alongside this community to achieve reconciliation?
9. a) How often do you conduct meetings with this community? (i.e. weekly/ monthly/ semi-annually/ quarterly/ yearly) b) How does the community respond?
10. a) Are there any projects run by this programme together with the community? b) If yes, which ones (Give names) c) Are these projects helping achieve reconciliation?
11. a) What are the advantages/ disadvantages of running this programme within the community? b) What are the challenges faced? c) What benefits does this programme offer to the local community?
12. a) i) Do you perform an audit of the programme to ensure its effectiveness in achieving reconciliation? ii) If yes, how often?
b) Who performs the review? c) i) Is the feedback given reported to the staff? ii) If yes, do you make changes to the programme if necessary?
d) i) In your opinion, is this programme achieving reconciliation? ii) What more could be done to ensure its effectiveness?
13. Do you have any additional remarks?

Appendix D- Permission Letter


KENYA
WILDLIFE
SERVICE

ISO 9001:2008 Certified

KWS/ERM/5001
12 January 2016

Ms Sharon Jemeli Kil
Murdoch University
3/29 Ward Crescent, Kelmscott
WESTERN AUSTRALIA, 6111
e-mail: sharonki190@gmail.com
mobile: 0722839612

Dear

PERMISSION TO CONDUCT RESEARCH IN AMBOSELI NATIONAL PARK

We acknowledge receipt of your letter dated 17th December 2015 requesting for permission to conduct research on a project titled: **'Reconciling Elephant and Local Community Well-being in Kenya: Identifying Good Practice Management'**. The study will generate data and information that will assist in mitigating human/elephant conflicts in Amboseli ecosystem.

You have been granted permission to conduct the study from **January 2016 to January 2017** upon payment to KWS of academic research fees of **Ksh.1,200**. However, you will abide by the set KWS regulations and guidelines regarding acquisition and dissemination of information and that the information acquired will be used for research and education purposes only. You will also be required to work closely with our Senior Scientist in-charge of Southern Conservation Area (SCA), whom you will give copies of the research proposal and the questionnaires. You will distribute the questionnaires to the officers listed below for administration.

You will submit a bound copy of your MSc thesis to the KWS Deputy Director, Biodiversity Research and Monitoring on completion of the study.

Yours



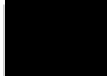
KAVAKA MUKONYI WATAI
FOR: DEPUTY DIRECTOR
BIODIVERSITY RESEARCH AND MONITORING

Copy to:

- Deputy Director, Species Conservation
- Senior Warden, Amboseli N. Park
- Senior Scientist, SCA
- Head-Elephant Conservation Program
- *Training Manager*

PO Box 40241-00100, Nairobi, Kenya. Tel: +254-20-2609233, +254-20-2609234
Wireless: +254-020-2379407-15, Mobile: +254-735 663 421, +254-726 610 508/9, Fax: +254-020-2661923
Email: kws@kws.go.ke Website: www.kws.go.ke

Appendix E- Information Letter

	Information Letter	www.murdoch.edu.au
Reconciling elephant and local community well-being in Kenya: identifying good practice management		
Dear Participant,		
You are invited to participate in a research project looking at the human-elephant conflict situation in Amboseli National Park. This study forms part of my Master degree in Environmental Science under the supervision of Dr. Michael Hughes and Dr. Kate Rodger at Murdoch University.		
The aim of this study is to investigate the effectiveness of conflict resolution programs in achieving reconciliation between elephants and local communities. The project aims to identify good practice management. I would like to know among other things, the conflict resolution program you are involved with, how it is helping reconcile elephants with local communities and the challenges it faces in doing so.		
To achieve this, I will ask you a series of questions. The use of audio recording will be employed only by your consent; otherwise note-taking will be the main means of recording your contribution.		
The interview is expected to take no more than one hour. Participation is entirely voluntary. You may choose not to answer specific questions. You may withdraw at any time without fear of discrimination or prejudice.		
Interview transcripts will be returned for checking. Once I have analysed the information from this study, I will email you the summary of the findings between the months of March-April 2016.		
If you have any questions about this project please feel free to contact me by email (sharonkill90@gmail.com) or +254 711239077. I am happy to discuss with you any concerns you may have about this study. You may contact my supervisors as well, Dr. Michael Hughes at m.hughes@murdoch.edu.au or +618 93607516 and Dr. Kate Rodger at k.rodger@murdoch.edu.au or +618 93602890.		
Thank you for your assistance with this research project.		
Sincerely		
		
Sharon Kill School of Veterinary and Life Sciences		
<p>This study has been approved by the Murdoch University Human Research Ethics Committee (Approval 2015/217). If you have any reservation or complaint about the ethical conduct of this research, and wish to talk with an independent person, you may contact Murdoch University's Research Ethics Office (Tel. +618 9360 6677 or e-mail ethics@murdoch.edu.au). Any issues you raise will be treated in confidence and investigated fully, and you will be informed of the outcome.</p>		