NATURAL RESOURCE CONFLICTS AND ITS IMPACTS ON HOUSEHOLD SOCIO- ECONOMIC ACTIVITIES OF THE ARROR COMMUNITY IN BARINGO NORTH SUB-COUNTY, BARINGO COUNTY, KENYA.

CHELIMO CHRISTOPHER KIBET

(Bachelor of Education (Arts), Mount Kenya University)

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Kisii University.

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DECLARATION AND RECOMMENDATION

Declaration by the candidate

This research thesis is my original work and has not been submitted anywhere else for the purpose of examination.

CHELIMO CHRISTOPHER KIBET _____ _____

MAS14/60016/14 Sign Date

RECOMMENDATION BY THE SUPERVISORS

This research thesis has been submitted with our approval for examination as university supervisor.

DR.JOHN MIRONGA _____ _____

Department of Geography Sign Date

Egerton University

DR. EDMOND WERE _____ _____

Department of Social Sciences Sign Date

Kisii University.

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CHELIMO CHRISTOPHER KIBET

DEDICATION

I dedicate this work to all my family members for their invaluable support during the entire research process. My daughter Naomi Jepkemboi and son Felix Toroitich Kataron. I am grateful for you are my God given blessings. To my staff mates at Kapchikar and Karelachon schools I salute you for helping me in one way or the other. My parents and siblings your assistance can not go unrecognized. In laws and cousins, I lack words to express my thanks for your encouragements.

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TABLE OF CONTENTS

LIST OF TABLE

LIST OF FIGURES

ABSTRACT

Natural resource conflicts are common in both developing and developed countries as societies try to extract the limited and often declining natural resources to support their livelihoods. In Arror a sub-group of the Tugen community, the impact is severe on household socio economic activities. The purpose of this study was to investigate the effects of natural resource conflicts and its impacts on household socio-economic activities of the Arror community in Baringo North sub-county. To achieve this, the following objectives were used: To establish whether natural resource conflicts affects agricultural activities; to determine whether natural resource conflicts affects communities permanent settlement; to establish whether natural resource conflicts affects education; to assess the impact of conflict on biodiversity. Gasana points out the manifestations of natural resource conflicts vary from wars and genocide to disagreements at the local level. Descriptive survey research design was employed in this study. The target population was 14 Area chiefs, 4 education officers and 19,734 household heads. Probability sampling, and in particular, stratified random sampling was used in this research to obtain stratus. The researcher used purposive sampling and simple random sampling techniques to select the required sample size. Questionnaires were used to collect quantitative data from household heads while interview schedule was administered to education officers, area chiefs and NEMA official. Qualitative data was analyzed by using content analysis on emerging themes. Data was analyzed using descriptive statistics such as mean, percentages, mode and standard deviation and the data collected were presented using frequency tables, percentages, pie charts and graphs with the aid of Statistical Package for Social Sciences (SPSS). Findings showed that natural resource conflicts have affected the communities' permanent settlement, agricultural activities, children's education and biodiversity. The conflicts have made it difficult for the respondents to build a permanent house for the fear of it being destroyed. The conflicts have brought about insecurity, inadequate income to pay for school fees and displacement of children from one school to another. Specifically, conflict on natural resources has led to the destruction of plants and animals, habitat degradation and reduced access to water points. There is therefore need for food policies aimed at improving people's resilience, preparing to take advantage of lulls in conflict and helping to prevent further natural resource conflicts. There is therefore need for protection of property rights as well as conflict resolution mechanisms within the host communities. It is important to improve security around the schools. Improving the security around schools would safeguard learning infrastructure in the schools and reduce interruptions to the learning processes.

CHAPTER ONE

INTRODUCTION

1.1. Background of the study

Globally, increase in population and environmental changes have led to high demand for resources. The demand for resources has seen community competing to access and control resources which are limited resulting to conflicts. Environmental changes related to climates have been identified as major predictors for the conflicts (Sterzel, 2012). Resource conflict has been defined by Brunborg, Helge & Henrik (2005) as circumstances where two communities or group are in opposition to each other as they pursue incompatible goals brought about mainly by structured violence. Resource conflicts are regular situations in most countries of the world especially in dry lands an example being Australia, which is endowed with scarce natural resources.

Meier (2007) findings indicate that Environmental change in the Greater Horn of Africa (GHA) has been prove by expanding recurrence of dry seasons from one in the clockwork to one in at regular intervals. In Ethiopia, for instance, dry season recurrence has expanded from 6-8 years to below 1-2 years (Meier, 2007). Kok, Lotze and Jaarsveld (2009) identified that misuse of natural resources and other related ecological burdens are critical in all periods of the conflicts, from episode and propagation of violence to undermining prospects for peace. They noticed that no less than 40% of the intrastate clashes in the most recent sixty years are connected with natural resources. In Sudan, for example, clashes have strengthened because of lessening resources brought about by serious dry spells (United Nations Development Program Sudan, 2010).

Many parts of Africa continue to experience violent anthropogenic natural resource clashes that compel maintainable food security, employments, and advancement in the region. These conflicts are numerous, complex and happen at various levels. They can be between ethnic, intra-ethnic, or cross boarder in nature. Barring between state wars, clashes in Africa for the most part show themselves as pastoralist clashes

(animals attacking or stirring, brutal debate at watering focuses, and so on.), abductions, thruway banditry, insecurity and other crimes (USAID and FEWS NET 2005).

Pastoralists dwell in more than 21 nations over the African continents. A large portion of these groups are influenced by clashes, with related potential effects on their livelihoods. Pastoralism is a noteworthy economic creation strategy in which individuals raise many animals, for the most part in arid and semi-arid lands (ASALs). ASALs cover 80% of Kenya's landmass and patronage around 33% of the nation's human populace and 70% of the national animals group. An expected 13 million steers, 25 million goats, 14.9 million sheep, 1.7 million jackasses and 2.9 million camels are found in Kenya's ASALs (KNBS, 2010). The most noteworthy domesticated animals populaces are held by the Arror and Pokot pastoralists of north-western Kenya (GoK, 2010). Pastoralism contributes around 12% to the nation's GDP (FAO 2005), with the domesticated animals giving an expected 90% of all work open doors and more than 95% of family unit salaries in ASALs (Kaimba, Njehia and Guliye, 2011)

Pastoralism practiced by the greater part of Arror and Pokot ethnic communities is majorly nomadic transhumance. This is portrayed by danger spreading and adaptable components, for example, large and diverse herd size, communal land ownership, mobility, and herd splitting and separation (Opiyo, 2011). The domesticated animals sort kept by the Arror and Pokot to oversee and spread danger incorporate cows (zebu), camels, goats, sheep and jackasses. Domesticated animal ownership plays various social, cultural, financial and religious parts in peaceful vocations, for example, giving a general wellspring of nourishment as milk, meat and blood for family individuals, money wage to pay for grains, training, human services and different administrations. In peaceful pastoral societies, domesticated animals are additionally vital for installment of share, remuneration of harmed gatherings amid assaults, image of thriving and esteem, store of riches and security against dry season, infection and different catastrophes. Animals is subsequently an essential type of peaceful capital, other than working as a method for generation, stockpiling, transport and exchange of nourishment and riches (Behnke, 2008).

In the broadest sense, conflicts can be characterized as mighty cooperation as an aftereffect of opposing perspectives. As pastoralism spins around domesticated animals, the conflicts are dominatingly about animals and its related gainful resources - water, land and field. These resources nearly attach clashes to the fierce robbery of animals, alluded to as assaulting, which are both a contributing element and an enunciation of conflicts. From one perspective, assaulting prompts doubt between groups which is an essential ingredient of conflicts (Mwangi, 2006). Then again, groups use striking to verbalize their threatening vibe toward enemy groups (Eaton, 2008). Customarily, domesticated animals assaults regularly included little scale sensible violence and burglary of the best animals or substitution of livestock lost amid times of dry seasons or illnesses. Loss of human lives was uncommon, and when this happened, remuneration as domesticated animals were paid to the casualties or their families in the event of death (Mkutu, 2008).

Baringo, one of the arid and semi-arid county areas in the former Rift Valley Province of Kenya covers a zone of 10,949 km2 (Kaimba, 2011) with a populace of 328,070 and is continually influenced by dry sessions (WCF Report). The County constitutes 6 constituencies to be specific Baringo Central, Tiaty, Eldama Ravine, Baringo North, Baringo South and Mogotio. The region is hot and dry all throughout the year and precipitation is very variable, with a yearly mean of 635 mm. Water deficiencies are a lasting issue, particularly in the dry low lying regions of the region. The accessibility of water is constrained amid the dry season yet normally increments with the onset of downpours. Nonetheless, precipitation in the region is sporadic and has just 50 percent unwavering quality (WCF Report). This is portrayed by exposed ground and free sandy top soil. It is occupied by the Pokot, Tugen and Njemps group of people whose real occupation is domesticated animals keeping (Kaimba, 2011).Only 10 percent of the area has high horticulture potential, for the most part in the south west and the Tugen hills is good agriculturally. In alternate ranges the fundamental action is pastoral nomads (WCF Report, 2012).

Baringo North Sub-County has been the setting of various clashes between improving governments and leaders set on saving the area and making it more gainful furthermore headstrong agriculturists and pastoralists (Anderson, 2005). Grazing conflicts between ethnic communities has expanded unreliability with limits and land

residency approaches stay badly characterized (raetrust.org). Baringo North pastoralists are primarily transhumance pastoralists reliant on domesticated animals for their occupation. Generally, they move regularly from their home bases and drive their herds to places with pasture and water and return to their residences in different seasons when field pasture rejuvenate. There is an inclination to gather steers even under unfavorable natural conditions, regularly applying a great deal of weight on the pitiful ranch assets. Unavoidably, there is rivalry amongst pastoralists in the area for the accessible ranch assets, requiring continuous animals developments and looking for grazing fields and water (Kaimba, 2011).The multiplication of current programmed weapons is all around reported as having negatively affected the scale and effect of furnished viciousness in peaceful groups(Mkutu, 2006).

In addition, commercialized raiding of livestock in which traders, politicians, rich businessmen and local people as they thrive for economic goals has influenced intensely the livelihoods of pastoralist and contributed to conflicts among pastoral communities (Eaton, 2010). Although violent conflict is one of the greatest challenges that the Arror, Samor, Njemps and Pokot communities in Baringo County have to deal with, its influence on their livelihoods in north-western Kenya has not been adequately documented. There have been studies by Kaimba, (2011) and Mkutu, (2010) to evaluate the drivers and alleviation system for the resource based clashes in pastoral regions, however it has scarcely been conceivable to break down the difficulties postured by rough clashes on account of the multifaceted nature and multidimensional character of the contentions in the locale under study. This study thus sought to provide a useful case to examine in depth the natural resource conflicts and its impact on household socio-economic activities of the Arror community in Baringo North Sub-County

1.2 Statement of the problem

Natural resource use conflicts are global phenomenon whose impact on socio-economic livelihoods has been recognized (Mkutu, 2000). The impact is felt more severely in communities whose base of livelihood is characteristically that of natural resources. Least Developing Countries especially those in Sub-Saharan Africa have been the hardest hit.

The arid and semi-arid regions of Kenya are renowned for resource use conflicts that have severely impacted on livelihoods. In the Arror Community, natural resource conflicts are more frequent after the dry spells, cultural rites and also as a result of political competition. The increased frequency of conflicts has led to disruption of means of livelihood, deaths and displacement of the household members. In most cases adverse impacts have been felt in agricultural production, settlement, educational achievement and in biodiversity conservation.

Traditionally, whenever scarcity of pasture and water occurs it affects community livestock which is often replenished through raiding. Thus, besides lack of pasture and water, pastoralists' migration could also be influenced by the perceived threats of cattle rustling and the insecurity generated by it (Doss, 2008).

Through existing literature refers to the intimate relationship between the two variables; natural resources conflict and socio-economic activities, it is more generalistic and ignores the actual impacts of natural resource use conflicts on the households.

This study explored and examined the socio-economic impacts that arise at the household level as a result of natural resource use conflict in the Arror Community in Baringo North Sub County.

1.3 Purpose of the study

The purpose of this study was to investigate the effects of natural resource conflicts and its impacts on household socio- economic activities of the Arror community in North Baringo Sub- County.

1.4 Objectives of the study

The study was guided by the following objectives

i. To establish the impacts of natural resource conflicts on agricultural activities of the Arror community in Baringo North Sub-County
ii. To determine the impacts of natural resource conflicts on communities permanent settlement in Baringo North Sub-County

iii. To establish the impacts of natural resource conflicts on education in Baringo North Sub-County
iv. To assess the impacts of natural resource conflicts on biodiversity conservation in Baringo North Sub County

1.5 Research Questions

The study sought to answer the following research questions

i. How do natural resource conflicts impact on agricultural activities of the Arror community in Baringo North Sub-County?
ii. To what extent do natural resource conflicts impact communities' sedentary settlement in Baringo North Sub-County?
iii. What is the impact of natural resource conflicts on education in Baringo North Sub-County?
iv. What are the impacts of natural resource conflicts on biodiversity in Baringo North Sub County?

1.6 Assumption of the study

This study was carried out with the assumption that the informants would give accurate information and that the researcher would have sufficient resources to collect and analyze the information.

1.7 Significance of the study

The significance of this study lies in the fact that it would bring to light the current situation of natural resource conflicts and socio-economic development in Baringo North Sub County. It clarifies obstacles to socio economic developments. By analyzing these problems, it is possible to determine where they lie and how they could be solved to promote sustainability of natural resource in Kenyan communities in general.

The results of this study provides information, alerts, caution and gives advice to Faith Based Organizations (FBOs), Non-Governmental organizations (NGOs), the civil society, the government and all other organizations working in Baringo North

Sub-County and Pokot County and other pastoralist areas especially in the natural resource management and conservation so that they can take the necessary precautions to ensure natural resource utilization and avoid unnecessary dispute.

1.8 Justification of the study

While consensus exists that natural resource conflicts as a form of conflict has severe and unfavorable consequences for pastoralists and rustic groups, there is a lack of exact documentation of the degree and exact nature of these impacts and the causes behind them. The degree of harm to jobs, the earth, individuals and whole nation request that these progressions be appropriately comprehended and recorded, as the premise for extensive and maintainable answers for brutal conflicts in Kenya. Livestock rustling is a major issue of concern among pastoralist communities. The office of the president being the largest and having the largest share of the national budget allocated to security underscores the importance that the government attaches to this problem.

Research has been done on the influence and migration of the pastoralists on the social factors such as educational performance. In Baringo North Sub-County, no research has been done on the natural resource conflicts and its impact on household socio-economic activities

The increased attraction of national resources to this issue indicates that it is a priority area in government and will be important for the government, the ministry of Interior Coordination and National Security and ministry of Social Services and development partners.

1.9 Scope of the Study

The scope of this study is limited to Baringo North sub county, the sub county has an area of approximately 1703.5 $KM^2$with a population of 93789 and 19734 households with a population density of 55 persons per km^2(KNBS, 2009) . Most of its climate is arid and semi-arid. The area is characterized by agro based economic activities where pastoralism is largely practiced. There was a recent oil prospect by Tullow Oil Company in Kerio Valley that covers Kapnarok game reserve. The area is partly

covered by Katimok forest in the Tugen hills. These natural resources have resulted to conflicts among the community members during exploitation (Kiamba 2011). The researcher therefore sought to investigate the impacts of natural resource conflict on household socio economic activities in Baringo North Sub County. This study was conducted within the month of July and October 2015.

1.10 Limitations of the study

The researcher was not able to interview all the intended respondents in the villages due to vast terrain of the area. Insecurity in the area was also a hindrance factor to data collection in this study. The methodology employed exposed the researcher at risk of encountering hostile cattle rustlers in the course of study. The researcher therefore sought permission from the local administration and community leaders before undertaking the study due to sensitivity of the matter at hand.

The study was limited to four household socio-economic factors affected by natural resource conflicts namely; agriculture, community's permanent settlement, education and biodiversity in Baringo North Sub County. It was limited to the last 20 years, a period that has been marked by escalation of incidences and viciousness of violence related to livestock rustling. This restriction was likely to jeopardize the reliability and validity of the data collected as many respondents were not likely to remember and follow correctly on the timing of incidences of conflicts in the study area. However, to place the study topic within the wider context and also shed light to the topic of livestock rustling, information from other pastoral communities was sought.

Some of the respondents were not willing to share some information; village elders and laibons, for instance were not willing to tell truth about the occurrences of cattle rustling or any other resource conflict that they had previously encountered, the researcher assured the respondents of confidentiality of the data collected during the study. The research was limited to Baringo North Sub-County hence the findings can only be generalized to other counties in the region. The methodology used to collect data had its own limitations.

1.11 Operational Definition of Key Terms

This section provides operationalized definitions of key terms as used in the study. The detailed definitions of these concepts were provided in the literature review.

Arror community: One of the sub-linguistic groups of the Tugen tribe living mainly in Baringo North Sub-county Baringo County.

Biodiversity: Different plants and animals in a given environment

Conflict: This is a disagreement or dispute between two or more parties.

Morans: This will mean a group of youth especially men who practice livestock rustling for cultural reasons.

Livelihoods These are assets which sustain peoples' lives.

Livestock Rustling: This refers to the armed attacks by one group of people on another with the purpose of stealing livestock. In involves theft of cattle sheep, goats and camels and is usually accompanied by rape, abductions, torching of houses and food galleries, banditry, clashes over water and pastures and indiscriminate killings.

Natural Resource Conflict: According to this study it refers to disagreements and disputes over access to, control and use of natural resources such as land, forest, water and pasture.

Natural Resource: This refers to amount of spatial geo-diversity and biodiversity existing in various environments. Natural resources are derived from the environment.

Socio Economic Activities: Community member's initiatives to acquire assets, such as pasture, water, animal health services, markets, credit and education, as well as the environment where these assets are combined for production and consumption purposes, namely political, organizational and institutional infrastructure. The most important asset that determine pastoral livelihoods are their livestock, because livestock perform a multifunctional role combining economic, socio-cultural and ecological needs.

1.12 Conceptual Framework

The conceptual framework diagram shows the relationship between natural resource conflicts and socio economic activities.

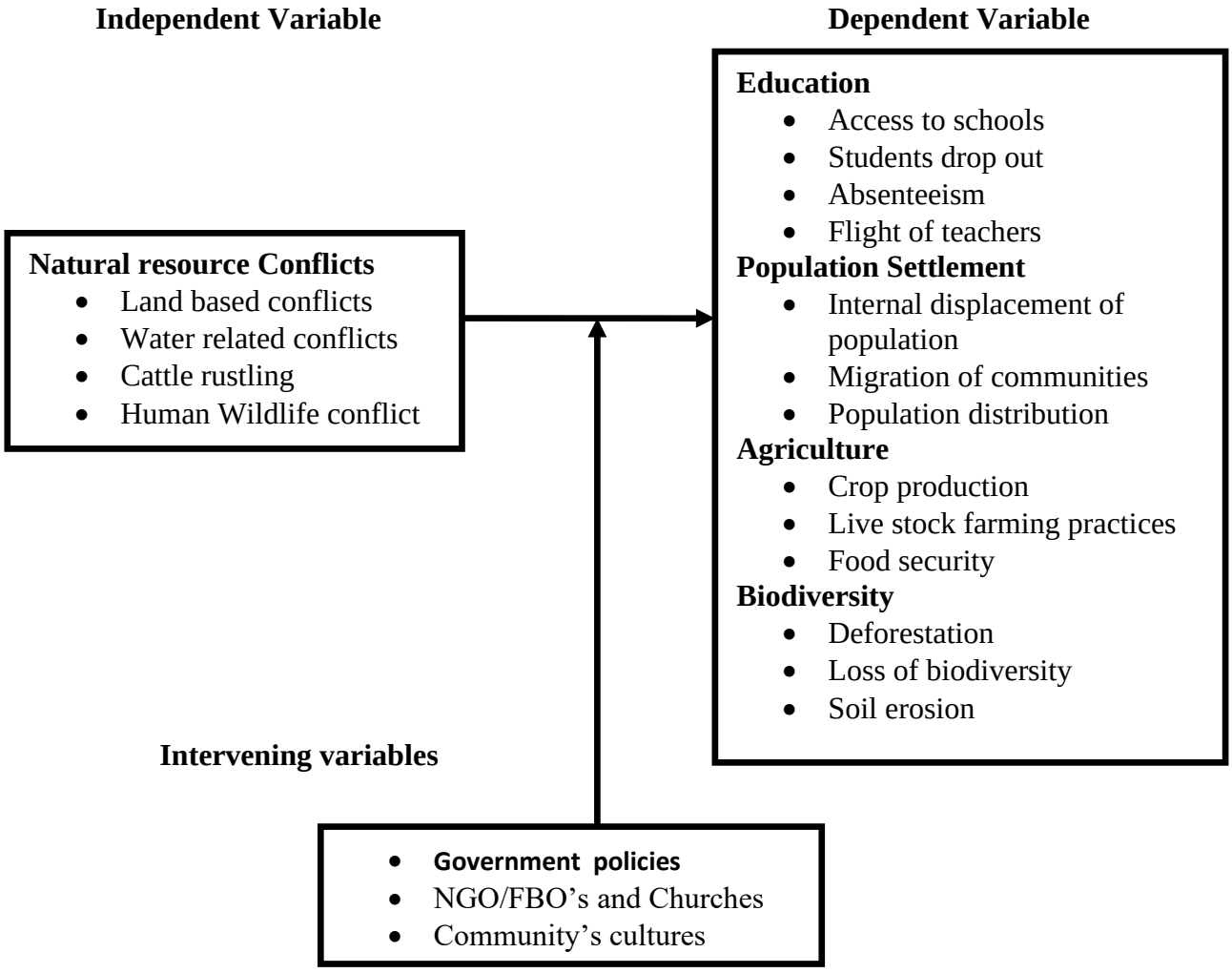

Figure 1: Relationship between natural resource conflicts and socio economic activities

Source: Author (2015)

Natural resource conflicts influences the socio economic activities of the communities. It negatively affects education especially key aspects of education which include syllabus coverage, displacement of pupils and teachers, class

attendance which in turn affects the measures of quality education such as academic performance and retention rates.

It also influences agricultural activities such as farmers leasing of farms in fear of victimization. Land tenure systems and crop farming are dictated by conflicts.

Natural resource conflict affects people's permanent settlement. Affected people run away from their homes, their houses burnt down and even the decisions to build a type of house and emigration of people.

Natural resource conflict affect biodiversity as people encroach into protected areas such as game reserves, forest and wetlands. As coping mechanism to loss of property, people burnt charcoal and hunt wild animals this leads to loss of biodiversity

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter looks at previous studies done by researchers that are related to the topic of study. It starts by discussing various objectives of the study. It then takes a look at various studies in other areas in relation to the topic of study. This chapter summarizes the conceptual framework.

2.2 Concept of Natural Resource Conflicts

According to Campbell and Gichohi (2009), the manifestations of natural resource conflicts vary from wars and genocide to disagreements at the local level. Non-violent conflicts are caused by demographic change, natural resource management, development pressure and structural injustices. The causes of natural resource conflicts vary from control over vital environmental resources to contestation over natural resources at the community and household level. (ACCORD, 2002) Accessibility and competition for scarce resources are the driving forces for conflicts in wetland use, management and conservation (Okech, 2010).

The poor marginalized groups are worst hit by environmental degradation and conflicts. Poverty and environmental degradation are cardinal issues related to environmental conflicts (Bob, 2010). The poor are often dependent on environmental resources for livelihoods and energy supply leading to environmental degradation (Campbell and Gichohi, 2009). Environmental degradation and diminishing natural resources are linked to local, national and international

Natural resources conflicts (Okech, 2010). The riparian community in the study area engages in destructive farming practices, cutting trees for charcoal burning, draining the wetland for cultivation and overgrazing. The immediate survival needs of the community take precedence at the expense of sustainability and management of the wetland. The people lack knowledge of conservation and non-consumptive wetland uses such as eco-tourism and recreation. The area has poor infrastructure, whereby people lack adequate health facilities, roads, clean water and electricity (NEMA, 2007). This has led to overuse, misuse and degradation of wetland resources (Castro and Nielson, 2003). Deforestation and catchment destruction has led to habitat degradation, loss of biodiversity and alteration of hydrology.

2.3 Natural Resource Conflicts and Access to Education

Mulkeen (2007) defines educational conflict as any action which is incompatible with educational goals or targets; or any action which obstructs, prevents, injures, interferes with or in any way makes it less likely to achieve educational goals. Where conflicts is in form of attacks, the attacks lead to deaths of teachers and students, destruction of infrastructure, and lead to severe psychological trauma to those exposed to them (O' Malley, 2010). When repetitious threat attacks occur, children are afraid to go to school, parents become scared of sending their children to school and teachers become afraid to go to work. Schools will be closed in the process of avoiding subsequent attacks and it will be difficult to replace teachers in the targeted areas. These effects lead to long term consequences on the type and quality of education available to children in areas of violence.

It is trusted that rough resource conflicts far and wide have included around 300,000 youngsters, both young men and young ladies, less than eighteen years old (Blattman and Miguel, 2010, World Bank 2005). More than 27 million youngsters are assessed to be out of school as an aftereffect of crisis circumstances. As indicated by the 1996 United Nations report on the Impact of Armed Conflict on Children, observed by Graça Machel, two million school going children perished amid furnished clashes somewhere around 1986 and 1996 in Mozambique. Six million youngsters were truly injured or for all time impaired, and millions more were isolated from their families, physically manhandled, snatched into military gatherings and, especially on account of young ladies, damaged by sexual violence and assault.

Cantwell (1997), revealed that in Rwanda alone, more than 300,000 children were killed within a time span of three months in 1994, while incomprehensible numbers were physically and mentally debilitated and compelled to escape their homes. In Chechnya, 40 percent of non-military personnel setbacks from February to May 1995 were children. In Bosnia and Herzegovina, more than 15,000 children were killed amid battling for communal land ownership (UNDP, 1996).

Numerous children drop out of school before finishing a full essential education cycle. In sub-Saharan Africa alone, 10 million children drop out of primary school each year. In Pakistan, half of kids matured 7 to 16 years from the poorest families are out of school, contrasted with just 5 percent from the richest households. In conflict affected poor countries, 28 million primary school children drop out of school which is 42 percent globally. In conflict affected third world countries school going pupils are likely to drop out of school twice as compared to other conflict free areas. Only 79 percent of youngsters are educated in conflict influenced poor nations, contrasted to

93 percent in other poor nations. State and non-state parties required in outfitted clashes are progressively focusing on regular citizens and civilian framework. Schools and school children are generally seen by soldiers as legitimate targets, in clear violation of international law. With over 60 percent of the population being important to mitigate the economic challenges that often lead to conflict. Most school going pupils fail to finish primary education cycle (UNHCR 1994).

From all tradition and anecdotal evidence the Pokot, Turkana, Samburu, Tugen, Keiyo and the Marakwet group of people used to attack each other. A large portion of the groups that practice pastoralism or domesticated animals raising background some type of dairy cattle rustling. This is done as a way to demonstrate masculinity for starts, raise endowment and to restock exhausted flocks after a drought or episode of livestock herds or outbreak of livestock diseases (National Council Churches of Kenya Memorandum, 2009).

United Nations Children Fund (2010) has established that many parents in conflict regions of Kenya refuse to send their children to school for fear of being attacked. A hostile school environment is by itself a hazard as it affects the learners negatively. Long distance to and from school is attributes to low enrolment of pupils in schools. In a recent Marigat attack, for example, the schools were turned into homes for the displaced meaning learning had to come to a standstill.

The increased incidents of resource conflicts have continued to cause distortions and disturb security and provoke a situation of insecurity. Cattle rustling among pastoral communities living in Baringo County are one of the factors contributing to insecurity causing low access to schools (Katam, 2012). Teachers are not spared either and following the conflict of cattle rustling there has been registered mass displacement of

teachers. There is distortion of normal life and learning and teaching has been adversely affected. Teachers therefore seek transfers to other areas that have not been affected by conflict. Teachers are reluctant to take up employment in areas where the first language is different from their own. Due to their endangered life, they are not able to perform their duties effectively. As violence increases, professionals leave the area for fear of insecurity and teachers are not excluded. If the insecurity is heightened they opt to take transfers or quit jobs and so learning is paralyzed, so unless security is assured, it is needless to say that the education system will continue taking a nose dive compared to other sectors (Kikechi*et at al*., 2012).

Students in secondary schools and the livestock raiding areas are at critical situation and age which requires close monitoring and guidance in order to be fruitful. Besides, majority of these students can easily be influenced by their age mates who are out there with firearms ready for raids; hence students in these areas can easily be overcome by peer pressure and can be emotional and rebellious if not given proper and immediate guidance to keep them on the right track both educationally and morally. Sigmund (2000) refers to this critical stage of development as adolescence, which youth go through and there is need for parents, teachers and learners to understand and help them.

The current study will investigate whether natural resource conflicts have contributed to school dropouts of children. Literature from the section shows the impact of conflicts on access to education; it highlights how many teachers have been killed in countries like Rwanda due to conflicts. It also shows how conflicts have led to displacement of children who are supposed to be in school. The literature review does not provide adequate answers to the effect of natural resource conflict on education in

Baringo North Sub-County. In particular it does not explain how cattle rustling have contributed to school dropouts, disruptions of learning activities and the influence of conflicts on access to education.

2.4 Natural Resource Conflict and Community's Permanent Settlement

Cattle raiding seeks to enable young men who are ready for marriage raise enough cattle to offset the bride price running to over fifty cattle and up to hundred in some instances. It is undisputable fact that the bride price has been rising with time while that of the cattle has not been commensurate and this is the source of the clash (Chemjor, 2012). The occurrence of frequent droughts in Arid and Semi-Arid Lands, contributes to a variety of resource shortage due to high climate change, resulting to high competition for water and pasture. Thus mobility remains the key pastoral risk management strategy during time of pasture and water shortage. (Little, 2001) points out that pastoralist who migrate with their herds during calamities have considerably fewer livestock losses than those who do not. However this mobility in itself causes conflicts among the pastoralists due to competition for scarce water and pasture and thus will hinder good academic performance in public Secondary Schools in the sub-county.

Grazing fields and water conflicts have for a long time been a piece of social interaction model of the peaceful groups in Kenya. The common area possession residency framework in pastoralist's zones is generally clear to give everybody measure up to privileges of abusing the assets. The area is conventional tribal brushing region, such that relocation looking for grazing fields and water by one tribe into zones perceived to be owned by the other group regularly causes clashes between pastoralists.

Overtime, nevertheless, water and pasture near the occupied areas is highly reducing; resulting to emaciation and death among livestock. Traditionally; whenever there is scarcity of water and pasture or diseases deplete a community livestock, it's often sought to replenish their numbers through rustling (Mkutu, 2000).

Thus, besides lack of pasture and water, pastoralists' migration could also be influenced by the perceived threats of cattle rustling and the insecurity generated by it (Doss, 2008). There is great influence and migration of the pastoralists on the educational performance. This study therefore investigated the impacts of livestock raiding and migration of the pastoral communities on academic performance in Baringo North Sub-County.

The Sub-County is characterized by bare ground and loose sand, loam soil with occasional stones on the surface. Much of the vegetation in the area is acacia woodland dominated by Acratortilis, *Acacia reficiens* and *Bosciacorriacea*. Other major plants species include *Balantaeagyptiaca* and *Salvadorapersica*.

Conflicts related to land have for long been a threat to rural economic practices for example agricultural activities. In Africa, communal land ownership frameworks award pastoralist's rights to assets, but in practice the utilization of these natural assets are controlled between and inside tribes. In this manner, dry season related movement looking for grazing fields and water by one tribe into ranges that other tribes have interest or ownership regularly causes struggle between pastoralists or amongst pastoralists and settled ranchers.

The transformation of land value touching an area from communal to semi-private ownership production undermines customary frameworks of crowd versatility. In light

of the fact that the changed land area is regularly arrived at a place that has already been put aside by community for dry season use lead to confrontations. Pastoralists' versatile relocation amid dry seasons additionally includes development crosswise over utilization of agrarian or other valuable resources in the area. It's more escalated usage that can bring about clashes, regularly with an ethnic measurement, over sharing of area and water.

Combined with populace pressure and subsequently climate change thus land clashes have raised worries over likely food instability and high destitution occurrence in the influenced regions (Deininger and Castagnini, 2006). Likewise, small scale land skirmishes can possibly transform into cross boarder common wars, thereby threatening security of a republic. (Renner, 1997; Andre and Plateau, 1998).

The literature on land in sub-Saharan Africa widely documents pervasive legal insecurity over land. Many studies have thus linked land conflicts to weak or non-existent formal land institutions and the failure of current customary land tenure systems to resolve conflicts (Donge and Pherani, 1999). Conflicts and clashes make frailty whenever they have got to arise and thus obstruct land change, which interprets into low farming yield per hectare (Deininger and Castagnini, 2006). In Mensah 1999; Donge and Pherani, 1999), different variables, for example, increased population, particularly in ranges that began with unequal area dissemination and horticultural commercialization, builds the interest and esteem for the area; over group relocations and social components cause land clashes. Land is an essential asset that speaks to a center worth in African culture: “African individuals are candidly connected to "their" territory, which speaks to a significant wellspring of their personality and is ordinarily found in a comprehensive point of view” (Donge and Pherani, 1999).

Inquiries of personality and relocation, accordingly, turn out to be especially notable. As viewed in numerous African nations, unique tenants restrict the exchange of generally possessed family and group area to "outsiders" by conferring demonstrations of treachery, plundering, blazing, and burglary of property and harvests of new landholders (Fred-Mensah, 1999). To the degree that estrangement of area to "outsiders or aliens" abuses social standards, hatred and pressures are excited if there could have arise an occurrence of movement, which can decipher into open savagery and area clashes (Plateau, 1996). Over people group relocations, then again, include blending of tribes with their particular qualities and inner area courses of action. This prompts breakdown of previous casual foundations, which, without formal organizations, lead to clashes in host groups. Without a doubt, Fred-Mensa (1999) contends that host groups in Ghana have been tormented by what he terms "universal clashes" as area removals. In addition to its effects on agricultural sector performance, small scale land conflict can escalate in to wide spread civil strife that may threaten national security. Studies have suggested that land scarcity and land conflict, mainly between ethnic groups fueled the Rwandan genocide of 1994 (Plateau, 1996)

The reviewed literature discusses the constant movement of households to search for pasture and water for their animals. The migration from one area to another often causes conflicts among herdsmen (Doss, 2008). The reviewed literature also shows the relationship between cattle rustling and migration.

However, the literature does not explain the relationship between natural resource related conflicts and its impacts on settlements. Specifically the literature does not explain to what extent resource conflicts have affected the ability of the Arror

community to put up permanent settlements. Households with permanent settlements are capable of accruing many socio- economic benefits such as being able comfortably to educate their children. The current study intends to fill this gap by determining influence of natural resource conflicts on settlement patterns, migration and type of housing.

2.5 Natural Resource Conflicts and Environmental Conservation

Land ownership influences the socio-economic and political positions of different groups of people. The land in sub-Saharan Africa has been a subject of conflicts, conquest and exploitation resulting in many types of inequalities and discrepancies. There are many land conflicts in the catchment and the past inequalities have persisted as they remain unresolved (Okech, 2010). In most sub-Saharan countries, the land dispossession and contestation has resulted in a skewed distribution of land resources (Kok*et al*., 2009). Land issues are related to poverty, inequality and land reform processes.

Contestation over land is most noticeable among the poor, who lack alternative means of supporting their livelihoods (UNDP, 2006). Land gives security in situations where formal vocation open doors and access to assets is inadequate. Land has major social, profound and recorded importance as it is an image of solidarity and gives a feeling of having a place with family ties. Openness and accessibility of area's assets is central in guaranteeing change of enduring financial and political prosperity of social orders, particularly the underestimated bunches.

The amount of land available determines the stability and food security of a local community, yet in Africa, land is becoming scarce in many parts of the continent

(Odgaard, 2006). As indicated by Kagwanji (2009), social measurements, for example, class, sexual orientation and religion influence openness and responsibility for land tenure. In Eastern Africa, arable land and related assets have been the focal point of contentions between groups. Possession and control of area and related assets are connected with basic leadership and the ability to impact changes. The local culture can deny rights of ownership to certain groups such as women.

The need to promote poverty alleviation efforts has become an increasingly common theme in the conservation sector. At the 7th Conference of Parties to the Convention on Biological Diversity held in 2002, participants agreed to achieve by 2010 a significant reduction in the current rate of biodiversity loss as a contribution to poverty alleviation and to the benefit of all life on Earth‟ (Convention on Biological Diversity, 2002).

In 2003, the World Parks Congress went further, recommending that protected areas should ‘‘make a full contribution to sustainable development’’ (IUCN, 2004) and ‘‘at least no harm’’ to people in their vicinity (IUCN, 2004). However, community conservation aims to provide an incentive for the sustainable management of biodiversity resources, by linking their maintenance with poverty alleviation or livelihoods benefits for the people living in their vicinity. This has typically been achieved through wildlife-linked enterprises, such as tourism or sustainable harvesting of natural resources (Hughes & Flintan, 2001) to benefit people and nature. While it has formed a component of protected area outreach in some cases, community conservation is more commonly associated with land outside of the formal protected area network (Wells *et al*., 1992).

Community conservation emerged from the recognition that strictly protected areas often failed to consider the interests of local communities, reducing their willingness to support or abide by conservation regulations (Kiss, 2004). Indeed, in some areas, strict protection and lack of community involvement resulted in active hostility between conservation authorities and local communities (Robbins *et al*., 2006). The need to engage communities in conservation was heightened by the realization that biodiversity resources are both subject to, and depend upon processes and policies, which act at national and global scale (Ancrenaz*et al*., 2007). Consequently, an approach which can reconcile the needs of biodiversity conservation and economic development was seen as vital tool particularly in developing nations.

The estimation of collective untamed life conservancies toward biodiversity upkeep cannot be overlooked. Untamed life conservancies advance biodiversity from numerous points of view. By securing the essential creatures of financial worth, the creatures and plants that rely upon the essential species are likewise ensured and most of the area stays in a characteristic state. A 2002 paper found that an amusement hold in Tanzania (in the area was tantamount to the conservancies in Namibia) was unsustainable for a few reasons. The focal administration of Tanzania has put aside a substantial part of area for the preservation and controlled chasing of amusement in the Kilombero stream valley. The discoveries in the paper demonstrate that in regions of the store that were watched by national natural life operators, amusement was generally ample. In any case, most of the store was ineffectively watched, leaving diversion creatures over-reaped and fundamentally pushed by poaching and farming action. Poaching generally struck supply meat to supplement nearby individuals' weight control plans, yet countless and elephant were taken by trophy seekers. The issue is aggravated if the standards were implemented since that would keep the

neighborhood's entrance to quality protein from their chasing exercises. Since the watch of extensive ranges by government natural life operators is impractical due generally to fiscal issues, the poaching proceeds and the number of inhabitants in untamed life decays (Bandyopadhyay et al., 2004).

2.5.1 Water Utilization

Water is a life support system for both animals and plants. Sustainable management and development of water resources is the basis for promoting socio-economic development and poverty alleviation (Creel, 2003). The demand for water increases with increase in human population. Water utilization includes agricultural, domestic, industrial, recreational and environmental activities. The water uses require fresh water but 97% of the Earth's water is salty while 3% is fresh. Part of the fresh water is frozen in glaciers and polar ice caps (Gleditsch*et al*., 2006). Fresh water is a renewable resource but the world's water is decreasing steadily (Creel, 2003).

The demand for water highly exceeds the supply and as the world population continues to rise, so does the demand for water. The importance of preserving water for ecosystem services has recently emerged as many wetlands have been lost together with their valuable services. The sources of fresh water include surface water, frozen water, desalination, ground water and under river flow. Ground or sub-surface water is fresh water in the pore spaces of the soil and rocks. Surface water is found in rivers, lakes and fresh water wetlands.

The quantity of water depends on precipitation and storage capacity, permeability of the soil beneath the water mass, run-off characteristics of the land in the water-shed and the local evaporation rates. If the sub-surface water source has high evaporation, the water becomes saline. Desalination is the process by which saline water is

purified; however, the process is very expensive (G.O.K. 2009). Human activities affect the water availability by increasing storage capacity and by draining wetlands (Onuoha, 2008).

The natural input to subsurface water is from rivers and streams. About 15% of worldwide water is used for domestic purposes such as drinking, bathing, cooking, sanitation and gardening. Basic household water requirement is estimated at solicitors/person/day. The uses include construction of artificial lakes which are created for wildlife habitat (Chris, 2010). The environmental usage is non-consumptive but it reduces water availability for other purposes. Recreation water is mostly found in reservoirs and it is required in small amounts. The water recreation activities include boat racing, boat-rowing, swimming, fishing and skiing.

2.5.2 Community Utilization of Wetland Vegetation

It is widely claimed that Kenya's forest or vegetation cover is too low. From the information given by Kenya Forest Service (KFS), the forest cover stands at 2% as opposed to the internationally accepted figure of 10%. Forests have been converted to settlements, farmlands, pasture, parks, roads, dams, schools and churches. The demand for timber and other forest products has risen. Unsustainable exploitation of forests has brought repercussions that are related to climate change. The rivers are drying up and rainy seasons are no longer predictable. Many animal, plant and insect species are fast disappearing due to human activities (Irandu, 2003). Communities need to put measures in place to mitigate their own mistakes by planting trees since the water sources are endangered by wanton destruction of forests (G.O.K., 2009). Forests are classified into state forests administered by (KFS), local authority forests

under jurisdiction of the local authorities and private forests which are owned by individuals or private organizations.

Wetlands are important sources of water and pasture for wildlife and livestock especially during the dry season. The wetland vegetation is harvested for thatching cottage industries, making canoes, traps and fishing baskets. The vegetation is divided into free-floating macrophytes, submerged and emergent plant species. There are many species including *Najaspectinatus, Ludwiga stoloniferas* and *Nymphaea caeruleae*. The invasive weeds include Eirrchorniacrassipes (water hyacinth) and *Salviniamolesta*. The grass species include *Themedatriandra* and *Pennisetumclandestinum*. Some legumes such as oxalis occur together with the grasses. The basin and its catchment has six categories of natural vegetation consisting of open grassland, scattered acacia, cedar with thick undergrowth, reed and swamp grass, *Themedapennisetum* grassland mixed with aquatic floating macrophytes. Human induced changes have affected the structure and composition of the natural vegetation.

The swamp vegetation includes *Cyperusimmensus, Cyperusrigidifolia, Cirsiumvulgare, Phalariaarudinacea, Cyperus papyrusand Cyperuslatifolia*. The basin and its catchment has characteristic natural vegetation of grassland, acacia, forest, cedar forest with thin undergrowth, reeds, swamp grass, *Themedapennisetum* grasses and floating macrophytes (Wamiti*et al*., 2007). The human induced changes in the composition of vegetation include planted eucalyptus trees. Removal of vegetation cover or deforestation leads to drying up of the lake, soil erosion, global warming and conflicts between various groups of people. The vegetation provides a home for biodiversity and conserves the water catchment. It serves as a source of

building materials, supports tourism and other economic activities. Vegetation provides a carbon sink when aquatic plants take up carbon dioxide from the atmosphere during photosynthesis, thereby reducing the global warming. The global warming has resulted from accumulation of green-house gases such as carbon dioxide in the atmosphere (Ericksen and Lind, 2005).

Impact of natural resource conflict and environmental degradation on loss of biodiversity is evident through flight of Rwanda's mountain gorillas. The flight was as a result of poaching and habitat encroachment and there is a risk of gorilla population getting extinct.

2.5.3 Wildlife Resource Use and Conflicts

According to NEMA (2007) report, Kenya has diverse species of endemic mammals, birds, butterflies, fish and amphibians. The country has lost wetland biodiversity due to extensive irrigation, drainage and grazing livestock in the wetland during the dry season. Wetlands are home for countless wild animals and vegetation. The destruction of some animal and plant species affects the functional relationship between humans and the physical environment. Extinction of animals disrupts the ecosystem and man suffers in the end. Wetlands provide many wildlife resources and products such as reptile skins and ornamental fish (aquarium). Many communities harvest these resources to enhance and improve their livelihoods (KWS, 2002).

The highest proportion of animals in the lake includes birds, hippopotamus, rats, amphibians and reptiles. Gazelles and hyenas inhabit the basin and leopards are sometimes sighted and they attack livestock at night. Coypu rat is an invasive mammal that has no natural enemies (Ruhiu, 2000). The rat has threatened the

existence of Cyprus reeds. Water birds are the most common wildlife in the lake and the abundant species are ducks, geese, water fowls, redknobbed coot, African Jacana, Black-winged Plover African Snipe, Gallinagonigripennis, Gray Crowned Crane, Blacksmith Plover and yellow-billed Duck. A bird survey that was carried out in Kianjata, Manguo, Gatumbiro and Rurii confirmed the presence of endemic and endangered species of Sharpes Long claw bird (Wamiti*et al*.2007).

Hippopotamuses are the most conspicuous mammals affecting livelihoods in the catchment area. The distribution of hippopotamuses on the lake is dependent on primary productivity in the riparian area. There are invertebrates such as grasshoppers and crickets.

In Rwanda, Gasana (1997) asserts that the growth and influx of refugees and internally displaced Persons (IDP'S) meant increase in food demand, firewood and water scarcity in recipient communities which provoked an increase of the rate at which environmental resources were used. The dispossession of IDP's was irreversible and spread deprivation, reinforced frustration and heightened ethnic hatred.

The reviewed literature focuses on the attempts to conserve natural resources such as wild animals by regularly monitoring what happens in the national parks. It also highlights the place that the community should play in conservation efforts. However, it lacks adequate details on impact of conflicts on natural resources such as deforestation, fires, land degradation, water pollution and destruction of biodiversity by Arror community in Baringo North Sub-County.

2.6 Natural Resource Conflicts and Agricultural Activities

Conflict and food insecurity are firmly related. The extent of malnourishment crises that can be viewed as human-set be left aside for some while. For sure, clash and monetary issues were referred to as the fundamental drivers of more than 35 percent of nourishment crises somewhere around 1992 and 2003, when contrasted with around 15 percent in the period from 1986 to 1991 (FAO, SOFA 2003).

More than half the global nations where undernourishment is reported commonly experienced clash amid the 1990s (FAO, SOFI 2003). Starting early September 2003, the quantity of nations confronting genuine sustenance deficiencies requiring worldwide help with the world remained at 38. Twenty-two of these were in Africa. Albeit unfavorable climate conditions are behind a hefty portion of the crisis circumstances, human-brought about debacles are additionally a main consideration. Characteristic asset struggle or the presence of inside uprooted individuals or exiles is among the explanations behind more than half of the reported nourishment crises in Africa. In West Africa, the rising picture of nourishment unreliability is more minds boggling and emerges from the cooperation of both human and common debacles.

It is clear that economies of many underdeveloped nations depend entirely on rain fed agriculture. This is contrary to developed countries which have high levels of industrial employment. Paula Palmer, (2010) states that low levels of agricultural employment indicate higher economic development. In a country like Britain, it has been reported that only 2 percent of the work force work in agriculture. A decline in agricultural employment over time may indicate a region or nation undergoing a process of economic development. Numerous nations depend completely on horticulture particularly in developing nations. Agribusiness utilizes a substantial

extent of the work power, whilst nourishment utilization represents an expansive offer of family wage. The United Nations Conference on Trade and Development (UNCTAD) takes note of that this implies "even little changes in rural vocation open doors, or costs, can have impacts.

Conflict share to natural resource is a mind boggling subject that has pulled in much consideration among scholars and researchers. Reasons for war inside West Africa range from a different blend of ecological, social, political and social variables. In 2002, Guinea-Bissau endured a rebellion, Côte d'Ivoire (1999-2002), Sierra Leone (1991-2002) and Liberia (1989-1997, 2003) experienced state breakdown and vicious clash; Guinea and Togo confronted struggle emerging from questioned administration. Amid the 1980s the expanded defenselessness in provincial regions as a consequence of dry season in the Sahel area brought about expanded quantities of individuals looking for shelter in Ghana, Guinea, Mali and Burkina Faso. After, the nature of contention adjusted with to a greater extent a political and ethnic premise. Strife in Senegal and Mauritania has emerged from access rights to water. In Senegal, the contention circumstance in the Casamance district is the aftereffect of a progressing defiance. Religious and also ethnic pressures have been the main impetus behind clash in Nigeria.

All in all, conflicts related to resources in Africa, comes from an assortment of components. There are similitudes crosswise over nations, additionally very unmistakable issues interesting to particular nations. Accordingly, conflicts constitutes the major illustrative component for starvation, yearning and unhealthiness, influencing the whole region given the mind boggling nature of the philanthropic emergency that outcomes from conflicts. Importantly though however,

conflicts while the significant reason for food instability, is not by any means the only purpose. Destitution, common fiascos and sexual orientation segregation result in sustenance unreliability and when consolidated with struggle have a tendency to intensify further the degree of the philanthropic emergency.

A noteworthy trouble that emerges from inward clash is that craving is as a general rule used to target both the outfitted gatherings and regular folks (Messer, 1998). Thusly, hunger endures long-after the end of war. That contention has extreme negative financial and social results is not under debate, but rather investigating the degree of this is hazardous given the absence of solid information at the smaller scale monetary level (see Mohammed, 1999).

The need to secure the nourishment and sustenance prerequisites of the populace enduring the contention turns into an essential condition for recuperation. Without satisfactory nourishment security, the contention/post-strife situations of mass movement, starvation, sectoral breakdown and passing because of appetite and infection (instead of battle impelled demise) turn out to be more probable. The monetary cost connects nearly to the social expense.

The diminishment in human capital and also physical and social capital has solid ramifications for sustenance security. A comprehension of the impacts and elements of contention on the motors that drive human welfare are vital with a specific end goal to confront proper components for post strife recuperation and struggle counteractive action. Plainly, strife is troublesome and has solid ramifications for rustic and rural improvement and development. The fleeting crisis reactions to address the necessities of individuals enduring the outcomes of the contention should be situated in a more

extensive long haul viewpoint of sustenance arrangement structure went for enhancing individuals' and nourishment framework flexibility.

Another vital measurement to asset strife and nourishment security originates from the purposeful utilization of appetite as a weapon; the alleged burned earth strategies and through what are named "assaults by oversight" where sustenance help, for instance, neglects to achieve the most defenseless gatherings, influencing the delicate dependability of nourishment access. De Soysa et al (1999) finds that asset conflicts to undermine the gainful limit of horticulture happen in the very nations whose economies are profoundly reliant on agribusiness however don't have the way to build land efficiency. In addition, the dynamic disturbance of components that encourage access to sustenance, for example, well-working markets, sensibly usable streets, nonattendance of barricades and attacks, and unhindered development all add to expanded quantities of hungry.

Ethnic communities living amidst unending yet fluctuating clash endeavor to ensure their employments and nourishment security as well as can be expected, whether in receipt of crisis philanthropic help or not. Inside the cutoff points of a fleeting arranging skyline, crisis horticultural bolster programs address these/necessities in progressively differing and innovative routes, some with critical limit building impacts. The inquiry emerges in the matter of whether these fleeting reactions can be situated inside a more extensive and more term nourishment security arrangement system went for enhancing individuals' flexibility, get ready to exploit calms in struggle or the possibility of a more managed peace, and forestalling further calamities (FAO, Tivoli workshop, 2003).

2.6.1 Pasture resources

Rangeland constitutions 45%-70% of Afghanistan land mass. This pasture land has both the fuel, green grass and fodder feeds to be used by livestock during winter. According to European Union (2009), 68% of households own livestock as compared with those with farmland. Access to pasture in this county influences household socio-spatial livelihood. The rural citizens depend mostly on pasture for agro-pastrolism. The hazara and pashtun kuchi tribes have been experiencing endless conflict over access and control of the alpine pasture lands in the central highlands (De-Waijer 2007)

The karamajong of the north semi-arid lands of Uganda practice pastrolism. Due to unreliable rainfall pattern, the herdsmen migrate with their livestock to territories Owned by Teso and Sebei. Competition for scarce pasture, the high economic and symbolic value given to domesticated animals gives prevalence of raiding among those groups. (Mkutu ,2006)

Orma the nomadic pastoralists and Pokomo the agriculturalists and fishermen of Tana River County have led clashes dating back to the 17th century. The two communities differ on land use. The Orma perceives as range land while Pokomo see it as farmlands. Environmental changes lead to invasion of farmlands and hence retaliation of damaged crops thus brutal killings among these groups

Baringo County is inhabited by the Tugen, Pokot and Njemps who practice Pastrolism. There are no clear boundaries among these tribes. Access and utilization of pasture has led to fatalities and loss of property.

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

This chapter covers the research design, target population, sample size and sampling techniques, research instruments, instrument validity, instrument reliability, data collection procedure and data analysis techniques.

3.2 Study Design

A research design refers to the procedures used by the researcher to explore the relationship between variables from subjects into groups, administer measures in relation to the groups and analyze the data. According to Orodho (2004), descriptive survey design is a technique in which detailed information concerning a social phenomenon is gathered by posing questions to respondents. This study used descriptive survey design using both qualitative and quantitative approaches because it intended to avail useful detailed information on natural resource conflicts and its impacts socio economic activities of the Arror community in Baringo North Sub-County. Qualitative approach deals with synthesizing the collected information while quantitative approach deals with analyzing numerical values, charts and tables.

3.3 Study area.

The study was carried out in Baringo north sub county, Baringo County. The sub-county has been a setting of numerous resources use conflicts.

3.4 Target Population

Mugenda and Mugenda (2003), assert that target population is the population to which the researcher wants to generalize about the universe population of a study. The study was conducted in Baringo North Sub County. Baringo North Sub-County has a total population of 93,789 but only 19,734 household heads were targeted (KNBS, 2009). The study targeted 14 local administrations (chiefs), 1 National Environmental Management Authority **(NEMA**) representative and 4 Education Officers.

3.5 Sample size and Sampling technique

A sample is a smaller group obtained from the accessible population. Each member in a sample is referred to as a subject. Mugenda and Mugenda (2009) assert that sampling is a process of selecting a number of individuals for study in such a way that the individuals selected represent the large group from which they were selected. Non probability sampling technique and in particular purposive sampling was used to sample the NEMA official, area chiefs and education officers. Purposive sampling is used when a sample was quite small and for making generalization in quantitative research design (statistical inference) therefore it provided in depth information. It also helped in focusing a particular characteristic of population that was of interest which enabled the researcher answer the research questions. Stratified sampling (probability sampling) was used to select a sample from the categories of the total population in the area. Simple random sampling was used to select house hold heads. According to Kombo and Tromp (2006), stratified random sampling involves dividing the population into homogeneous subgroups and then taking a simple random sample in each subgroup. It groups a population into separate homogenous subsets that share similar characteristics so as to ensure equitable representation of the population in the

sample. The household heads sample was determined by Naissuma's formula recommended by Reid and Bore (1991).

$$n = 1+N (e)^2$$

Where;

n is the sample size

N was the target population

e was the level of precision (0.05)

Substituting this value for strata we get:

$$n = \frac{19,734}{1+19,734 (0.05)^2}$$

$$n = 392$$

392 are household heads and 3 key informants summing up to 395

With stratified proportional allocation, the Sample size was equally distributed among the respondents as shown in Table 3.1 below:

Table 3.1: Sample Size

Strata	Target population	Sample size
Area Chief	14	1
NEMA	1	1
Education Officers	4	1
Household heads	19,734	392
Total	**19753**	**395**

3.6 Data Collection Instruments

The research instruments that were employed in collection of data in this study were structured questionnaires and interview schedules. Mugenda and Mugenda (2003), states that questionnaires are commonly used to obtain important information about the population. The questionnaires contained background information of the respondents and question items that sought to analyze them. The questionnaire carried both open ended and closed ended items which were distributed to household heads selected using simple random sampling. The interview on the other hand gave an opportunity to capture some key issues that were not provided for in the questionnaire by having leading or guiding questions. The interview was scheduled prior to commencement of study and administered to chiefs and village elders of the sample. The interviews were meant to gather information on the impact of resource conflicts in the area under study; it was administered to a small sample size selected from purposive sampling. Generally, interviews were used in this study because they also afforded the researcher chance to gather in depth first-hand information on face-to-face interaction with the respondents.

3.7 Piloting

Pilot study was conducted to determine the validity of the research instrument the relevance and the clarity to show any inappropriate questions so that the questions were rephrased. It was given to areas not selected in the study but with similar characteristics to those selected in the study sample. The pilot study was done in Baringo central which was not involved in the study.

3.8 Instrument Validity and Reliability

According to researchers, there are two forms of validity, namely, content and face validity. According to Mugenda and Mugenda (2012), content validity is a measure of the degree to which data collected using a particular tool represents a specific domain of indicators or content of a particular concept. They also define face validity as the degree to which an instrument is judged to be relevant in obtaining accurate and meaningful data on the variables of interest. Further, Borg and Gall (1989) explains that content validity is the degree to which the sample test or instrument items represent the content that the instrument is designed for while face validity is the degree to which an instrument appears to measure what it is supposed to measure. To ensure that the research instruments collected the expected data, different measures were taken to ensure both content and face validity.

Reliability: Reliability refers to the degree to which an instrument shows the same results on replicated trials (Orodho, 2009). It is therefore the degree of constancy to produce the same results when used in two or more attempts to measure theoretical concepts. It is not a must that the reliable measuring tool be applicable (Kothari, 2014). Cronbach Alpha was used to determine a reliability index Santos & Reynold

(1999). The piloting of the questionnaire was used to identify faults leading to its reliability. Data was analyzed by use of SPSS software. The test re-test technique was used to estimate the reliability of the instruments. This involved administering the same test twice to the same group of respondents who had been identified for this purpose.

The research instruments were given to the supervisors, colleagues, and other experts in research from Kisii University who checked and further interrogated them on content and face validity and reliability. The expertise judgments helped in making necessary adjustments that were identified.

3.9 Data Collection Procedure

The researcher obtained a permit from the National Council for Science and through an introduction letter from the Kisii University. The researcher visited the affected areas in Baringo North as per appointed times, created rapport with local administration and community members and then issued the questionnaires. The respondents was assured of confidentiality would be maintained.

3.10 Data Analysis Technique

The data gathered by use of questionnaires were examined to ascertain their accuracy, competence and to identify those items wrongly responded to. The data was validated, edited and then coded. The validation process was to enable there searcher to determine the return date of questionnaire. Data from interviews and open ended items in the questionnaire constituting qualitative data in form of words and phrases was transcribed and then arranged as per emerging themes.

Some data however were quantified where possible and with quantitative data from the structured questionnaire items. All quantitative data were coded, classified, recorded and prepared on a sheet as per the objectives of the study. They were subjected to descriptive statistics by use of the Statistical Package for Social Sciences (SPSS). Frequencies and percentages were used as tools of analysis in order to answer research questions.

3.11 Ethical Consideration

This study on natural resources conflict and its impact on household socio economic activities are very emotional which reveals trauma and suffering caused by the conflict to affected persons. The respondents were assured of confidentiality of information collected on what was studied, purpose of the study in diverse resource utilization to bring out positive impacts in their lives. The respondents consent to participate was voluntary and assured of confidentiality and anonymity. According to Kerlinger (1983), the researcher needs to respect the privacy of respondent and ensure that the information collected was not disclosed unless the disclosure was permitted in policy.

During interviews respondent were requested to consent that their responses recorded on interview scheduled form. The researcher acquired permission from Baringo County Government and National Council of Science Technology and Innovation (NACOSTI) through introduction letter from Kisii University before undertaking the research.

CHAPTER FOUR

RESULTS

4.1 Introduction

This chapter presents the analysis of the data collected and discusses them accordingly in relation to the research questions stated with the aim of achieving the stated objectives. The purpose of the study was to investigate the effects of natural resource conflicts and its impacts on household socio-economic activities of the Arror community in Baringo North sub-county. Data was collected by use of questionnaires and interview schedules. The collected data was analysed and presented using tables, pie charts and graphs. Results were presented for each of the theme drawn from the objectives and were interpreted and discussed.

4.2 Response Rate

Out of the three hundred and ninety five (395) respondents who were sampled and the questionnaires were administered, three hundred and thirty eight (338) responded. This gave a response rate of 85.6% percent.

4.3 Demographic Information

This section covers respondent's age, gender, education level, marital status and occupation. Demographic information lays a basic foundation on which interpretations of the study are based. This background information enabled the researcher and the readers to understand the abilities of the respondents in relation to the topic under study.

This ensured the identification of demographic related gaps within the study and how they could determine the realization of the objectives of the study.

4.3.1 Gender of the Respondents

The researcher sought to establish the gender of the respondents. As evidenced in figure one, majority 60% (203) are female and 40% (135) are male respondents.

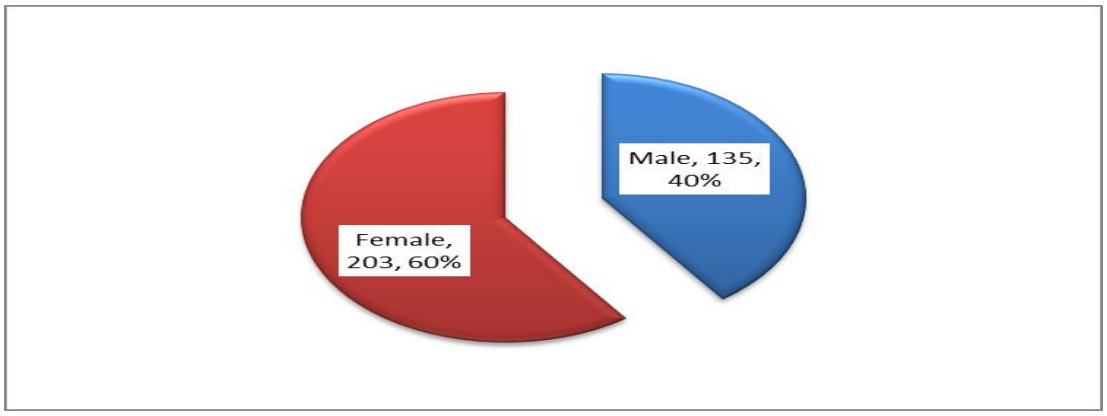

Figure 2 Gender of the Respondents

4.3.2 Respondent's Age

The researcher also sought to establish the age of the respondents. Figure three illustrates that 41.4% of the respondents are between 30 to 40 years, 24% are between 40 to 50 years, 18.6% of the respondents are between 20 to 30 years and 16% of them are over 50 years. The results indicate that most of the respondents are young men and women. Efforts should therefore be put in place improve upon the educational facilities and also create job opportunities for the increasing number of the youth.

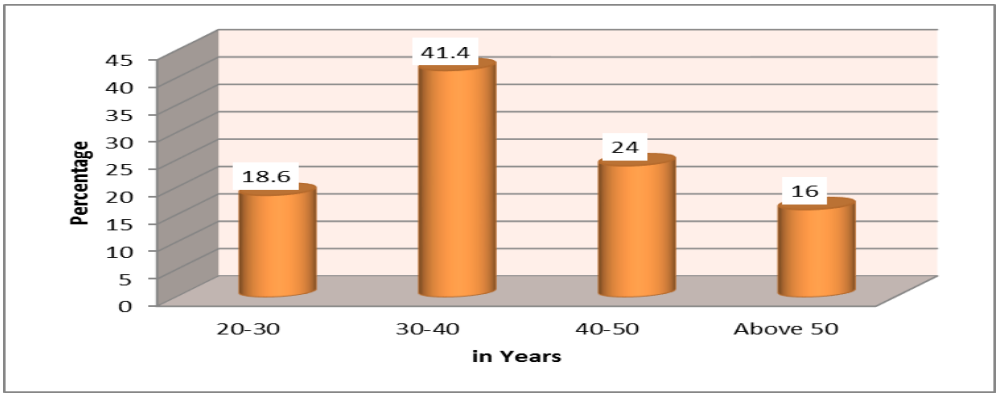

Figure 3 Respondent Age

4.3.3 Respondent Education Level

The researcher sought to establish the education level of the respondents. As shown in figure four, 36.4% of the respondents have a primary certificate, 32.8% of them are illiterate, 20.7% of them have a secondary certificate, 4.1% degree and 5.9% of the respondents have a Diploma. It is evident from the results that the respondents have low education levels. It could therefore be inferred that they lack knowledge of conservation and their high illiteracy rate affects their appreciation and support for conservation of natural resources.

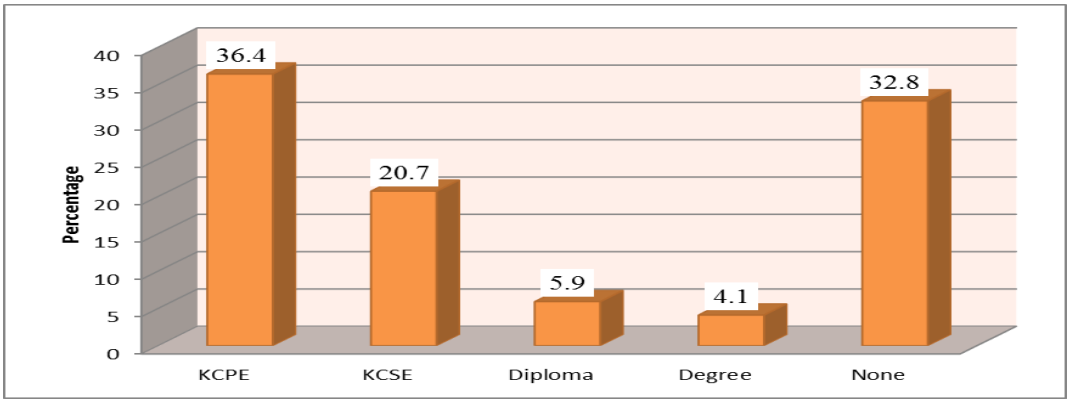

Figure 4 Respondent Education Level

4.3.4 Marital Status

The marital status of the respondents was also ascertained by the researcher. Figure five illustrates the results. The results in figure four indicates that majority 60% (203) of the respondents are married, 32% (108) of them are single and 8% (27) of the respondents are divorced.

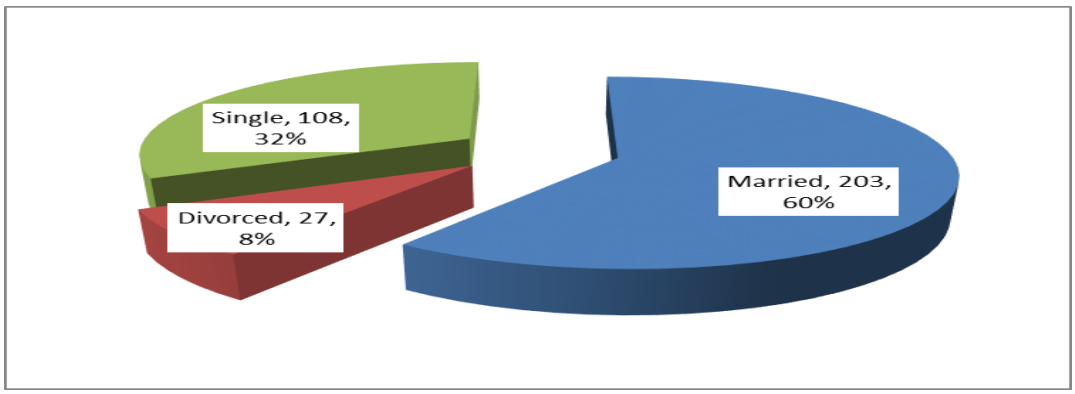

Figure 5 Marital Status

4.3.5 Occupation

The researcher sought to establish the occupation of the respondents. Figure six illustrates the results. It is evident that 42% of the respondents are farmers, 33.1% are herders, 18% business persons' and 6.8% professionals'. Basically, the respondents are mostly farmers and herders since they lack the requisite education that would enable them to compete effectively for jobs in the formal sector. As such, they lack the required occupational skills that would allow them to venture into different types of alternative livelihood activities.

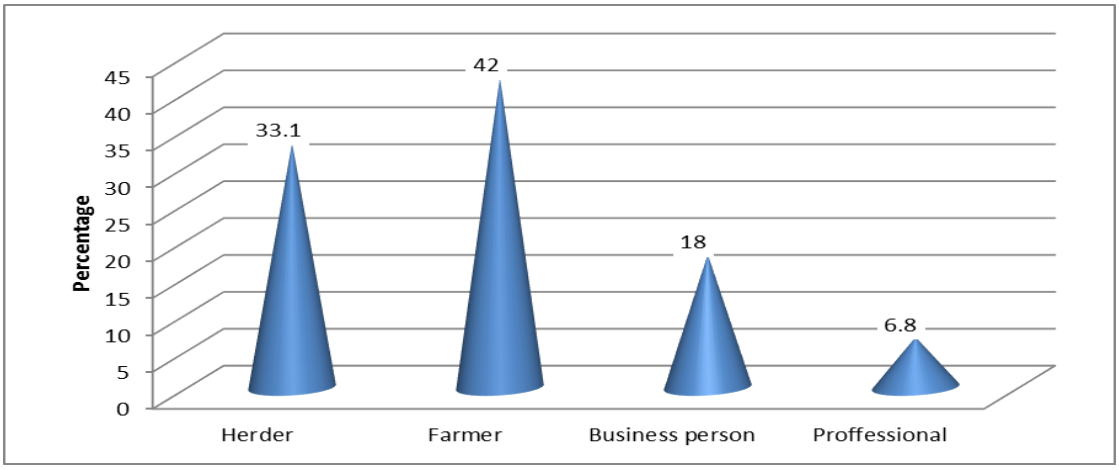

Figure 6 Occupation

4.4 Natural Resource Conflicts and Agricultural Activities

4.4.1 Conflicts on resources

The respondents were asked whether they have experienced conflicts on resources. The results are as presented in figure seven. From the findings in figure six, 80% (269) of the respondents have experienced conflicts on resources while 20% (69) of the respondents have not experienced conflicts on resources.

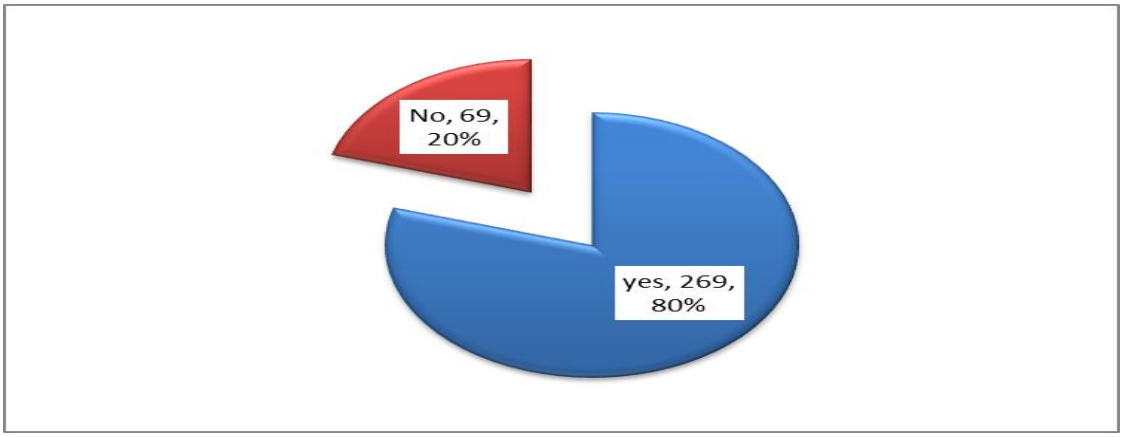

Figure 7 Conflicts on Resources

4.4.2 Natural Conflict Experienced

This section of the study put into account natural conflict experienced. The results are presented in table 4.1. As evidenced in the table, majority 73.4% (248) of the respondents have experienced cattle rustling. Further, 29.9% (101) of the respondents have experienced water related conflicts, 26.6% (90) of them have experienced land based conflicts and 22.2% (75) of the respondents have experienced human wildlife conflict.

Table 4.1 Natural Conflict Experienced

		Yes	No	Total
Land Based Conflicts	Frequency	90	248	338
	Percent	26.6	73.4	100
Water Related Conflicts	Frequency	101	237	338
	Percent	29.9	70.1	100
Cattle Rustling	Frequency	248	90	338
	Percent	73.4	26.6	100
Human Wildlife Conflict	Frequency	75	263	338
	Percent	22.2	77.8	100

4.4.3 Effect of Conflict on Natural Resources on Agricultural Activities

The first objective sought to establish whether conflicts on natural resources have affected their agricultural activities. The results are as presented in figure eight. From the figure, 85% (287) of the respondents confirmed that conflict on natural resources has affected their agricultural activities. Only 15% (51) of the respondents noted that conflict on natural resources has not affected their agricultural activities.

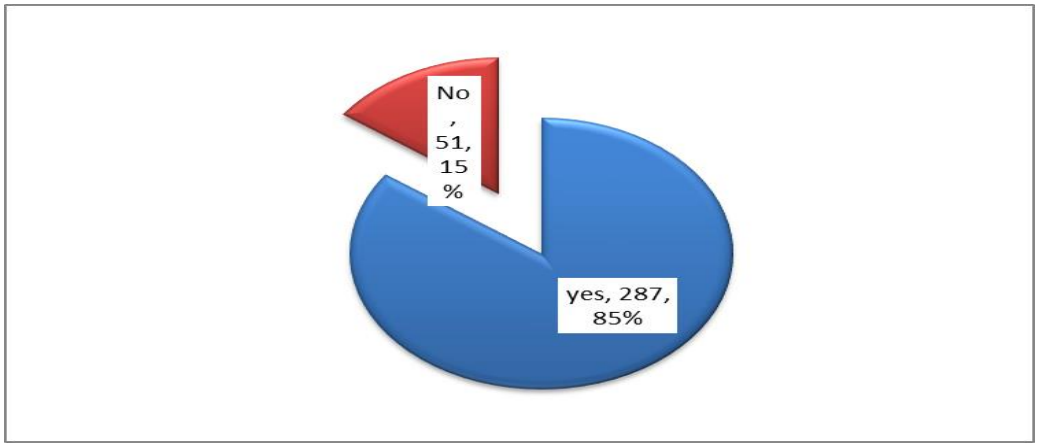

Figure 8 Natural Resources conflict and its effects on Agricultural Activities

4.4.4 Conflict on Natural Resources and its effects on Agriculture

In this section of the study, the various conflicts that have affected agriculture are highlighted. Table 4.2 illustrates the results. As evidenced by 91.4% (309) of the respondents, conflict on natural resources has resulted to burning of plants. Also, 67% (227) of the respondents have confirmed that conflict on natural resources has resulted to closure of Agro vet shops. Further, 65.4% (221) of the respondents confirmed that production has gone down. However, 91.4% (309) of the respondents denied that natural resources are underutilized, 85.2% (288) of them disagreed that cattle rustling has affected agriculture and 92% (311) of them disagreed that there is no market for farm product due to insecurity.

Table 4.2 Various conflict on Natural Resources have Affected Agriculture

		Yes	No	Total
Production goes down/wild animal attacks	Frequency	221	117	338
	Percent	65.4	34.6	100
Natural resources is under utilized	Frequency	29	309	338
	Percent	8.6	91.4	100
Cattle rustling	Frequency	50	288	338
	Percent	14.8	85.2	100
Burning of plants	Frequency	309	29	338
	Percent	91.4	8.6	100
No market for farm product due to insecurity	Frequency	27	311	338
	Percent	8	92	100
Agro vet shops closed	Frequency	227	111	338
	Percent	67	33	100

4.4.5 Natural Resources conflicts which Affect Agriculture Activities Most

The researcher sought to establish natural resource conflicts that affect agricultural activities the most. The results are presented in table 4.3. Out of the 338 respondents, 46.4% (157) of them noted that cattle rustling have affected agriculture activities though 53.6% (181) of them disagreed. Further, 57.4% (194) of the respondents denied that human wildlife conflict has affected agriculture activities while 42.6% (144) of them were in agreement. In addition, 60.1% (203) of the respondents disagreed that water related conflicts has affected agriculture activities whereas 39.9% (135) of them were in agreement. Finally, 68.6% (232) of the respondents agreed that land based conflicts has not affected agriculture activities yet 31.4% (106) of them agreed that land based conflicts have affected agriculture activities.

Table 4.3 Natural Resources conflicts which Affect Agriculture Activities Most

		Yes	No	Total
Cattle rustling	Frequency	157	181	338
	Percent	46.4	53.6	100
Human wildlife conflict	Frequency	144	194	338
	Percent	42.6	57.4	100
Water related conflicts	Frequency	135	203	338
	Percent	39.9	60.1	100
Land based conflicts	Frequency	106	232	338
	Percent	31.4	68.6	100

4.4.6 Effect of Natural Resources Conflict on Agriculture Activities

The researcher sought to establish the effect of natural resources conflict on agriculture activities. The results are as presented in table 4.4. The study sought to find out whether crop production has been affected by conflict on land. The results were such that 40.8% (138) of the respondents agreed, 27.2% (92) strongly agreed, 15.7% (53) disagreed, 12.7% (43) strongly disagreed and 3.6% (12) were not sure. The mean value of 3.54 was a confirmation that conflict on land has affected crop production.

In a bid to establish whether conflict on agricultural lands has made it difficult to produce enough food for selling and consumption, the respondents were asked to respond accordingly. 41.4% (140) of the respondents agreed, 25.4% (86) strongly agreed, 7.4% (25) strongly disagreed while 25.7% (87) of the respondents were undecided. The mean value was 3.78 and the standard deviation 1.063. This implies that conflict on agricultural land has made it difficult to produce enough food for both consumption and selling.

To establish whether conflict has forced the respondents to lease their land, respondentswererequestedfortheiropinionandtheresultsweresuchthat, 22.8% (77) of them agreed, 9.2% (31) strongly agreed, 33.1% (112) disagreed, 18.6% (63) strongly disagreed while 16.3% (55) of the respondents were neutral. The mean for the item was 2.71 and the standard deviation 1.26. This is an indication of uncertainty in regards to whether conflict has forced the residents to lease their land.

In order to ascertain whether the respondents can only rear few cows since cattle rustling has restricted movement of animals to grazing,resultsrevealedthat,40.2% (136) of the respondents agreed, 17.5% (59) strongly agreed, 22.2% (75) disagreed, 7.4% (25) strongly disagreed while 12.7% (43) of the respondents were neutral. The mean for this item was 3.38 and the standard deviation 1.218. This indicates that there is doubt whether respondents can only rear few cows since cattle rustling has restricted movement of animals to grazing. The researcher also sought to establish whether cattle rustling are the reason why the respondents sell their animals at a loss. The results were such that 25.7% (87) of the respondents agreed, 29.3% (99) strongly agreed, 34.3% (116) disagreed while 10.7% (36) of them were not sure. The mean for this item was 3.5 and the standard deviation 1.236. Therefore, cattle rustling are the reason as to why cows are sold at a loss.

Further, in regards to whether cattle rustling force the respondents to sell their cows even before they mature, 29.9% (101) of them agreed, 10.9% (37) of them strongly agreed ,33.7% (114) disagreed, 7.4% (25) of them strongly disagreed whereas 18% (61) of them were undecided. The mean was 3.03 and the standard deviation 1.172.

This is an indication of uncertainty in regards to whether cattle rustling force the respondents to sell their cows even before they mature

Table 4.4 Effect of Natural Resources Conflict on Agriculture Activities

		SD	D	UD	A	SA	M	S Dev
My crops production have been affected by conflict on land	F	43	53	12	138	92	3.54	1.369
	%	12.7	15.7	3.6	40.8	27.2		
I cannot be able to produce enough food for selling and consumption	F	25	0	87	140	86	3.78	1.063
	%	7.4	0	25.7	41.4	25.4		
Due to conflict am now forced to lease my land	F	63	112	55	77	31	2.71	1.261
	%	18.6	33.1	16.3	22.8	9.2		
I can only rear few cows since cattle rustling has restricted movement of animals to grazing	F	25	75	43	136	59	3.38	1.215
	%	7.4	22.2	12.7	40.2	17.5		
Most of the time I sell my animal at loss for fear of cattle rustling	F	0	116	36	87	99	3.5	1.236
	%	s	34.3	10.7	25.7	29.3		
Cattle rustling force me to sell my cows	F	25	114	61	101	37	3.03	1.172
	%	7.4	33.7	18	29.9	10.9		
conflicts on water resources have made me to search for more	F	128	75	30	50	55	2.49	1.512
	%	37.9	22.2	8.9	14.8	16.3		
I now buy my own water from outside due to conflict of water resources	F	75	146	32	49	36	2.48	1.276
	%	22.2	43.2	9.5	14.5	10.7		
I am forced to cultivate crops as opposed to keeping livestock	F.	9	80	47	120	82	3.55	1.17
	%	2.7	23.7	13.9	35.5	24.3		

Additionally, 14.8% (50) of the respondents agreed that conflicts on water resources have made them to search for more to dig borehole which is costly, 16.3% (55) of them strongly agreed on the same, 22.2% (75) of the respondents disagreed, 37.9% (128) of the respondents strongly disagreed while 8.9% (30) of the respondents were undecided. The item had a mean of 2.49 and standard deviation of 1.512. Also, 14.5% (49) of the respondents agreed that they can now buy their own water from outside due to conflict of water resources, 10.7% (36) of them strongly agreed, 43.2% (146) of them disagreed, 22.2% (75) strongly disagreed while 14.5% (49) of the respondents were undecided.

The results summed up to a mean of 2.48 and standard deviation of 1.276. Finally, 35.5% (120) of the respondents agreed that they are forced to cultivate crops as opposed to keeping livestock, 24.3% (82) of then strongly agreed, 23.7% (80) of them disagreed, and 2.7% (9) strongly disagreed while 13.9% (47) of the respondents were undecided. The item had a mean of 3.55 and standard deviation of 1.17 affirming that conflict forced the respondents to cultivate crops rather than keep livestock.

4.5 Natural Resource Conflicts and Sedentary Settlement

4.5.1 Living in these Areas since Birth

Objective two sought to establish whether the respondents have lived in the said areas since birth. The results in figure nine revealed that majority 66% (222) of the respondents have lived in the area since birth. Only 34% (116) of the respondents confirmed that they have not lived in the area since birth.

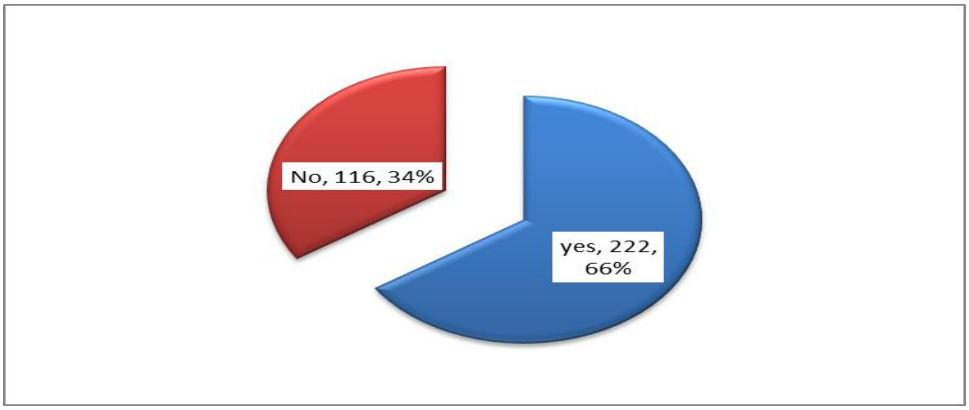

Figure 9Living in these Areas since Birth

4.5.2 Conflict on Natural Resources and its effects on Settlement

The study also sought to establish whether conflict on natural resources has affected their settlement. Figure 10 presents the results. As shown in figure 9, 84% (284) of the respondents confirmed that natural resource conflict has affected their settlement while 16% (54) of the respondents noted that natural resource conflict has not affected their settlement.

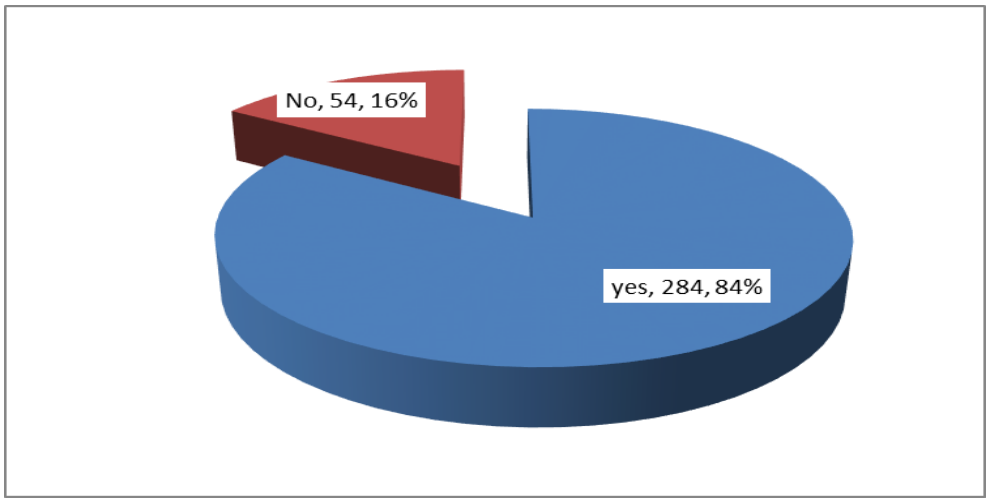

Figure 10 Conflict on Natural Resources affected you Settlement

4.5.3 Various ways Natural Resource Conflict have Affected Sedentary Settlement

The researcher deemed it important to establish the various ways natural resource conflict have affected permanent settlement. Table 4.5 illustrates the results. As evidenced by 100% (338) of the respondents, natural resource conflict has forced them to live elsewhere for safety reasons. Also, 83% (281) of the respondents confirmed that they cannot build a permanent house for the fear of being destroyed. Further, 33% (112) of the respondents stated that their house was burnt and 29% (98) of the respondents noted that they slept in tents.

Table 4.5 Various Ways Natural Resource Conflict have Affected Sedentary Settlement

	Frequency	Percent
forced to live elsewhere for safety reasons	338	100
I slept in tent	98	29
our house were burned	112	33
every time there is conflict I free	77	23
I cannot build a permanent house for fear of being destroyed	281	83

4.5.4 Natural Resource Conflict that has Affected Sedentary Settlement most

The researcher found it necessary to establish natural resource conflicts that have affected permanent settlement the most. Table 4.6 highlights the results. As shown in table 4.6, 53% of the respondents stated that cattle rustling have affected permanent settlement most, 42.9% (145) land based conflicts, and 34.6% (117) water related

conflicts and 25.1% (85) of the respondents stated that human wildlife conflict has affected permanent settlement the most.

Table 4.6 Natural Resource Conflict that has Affected Sedentary Settlement most

	Frequency	Percent
Cattle rustling	179	53
Land based conflicts	145	42.9
Water related conflicts	117	34.6
Human wildlife conflict	85	25.1

4.5.5 Effect of Natural Resource Conflicts on Sedentary Settlement

This section of the analysis focused on the effect of natural resource conflicts on permanent settlement. The results are as presented in table 4.7. The respondents were asked whether land conflict has forced many people to move from their residence. The results revealed that 52.4% (177) of the respondents agreed that land conflict has forced many people to move from their residence, 30.8% (104) of the respondents strongly agreed, 7.7% (26) disagreed, and 2.7% (9) strongly disagreed while 6.5% (22) of the respondents were undecided. The mean for this item was 4.01 and the standard deviation was 0.961. This implies that land conflict has led to the displacement of people from their permanent settlement.

Further, when asked whether cattle rustling has made them to move from one place to another looking for safe place to rear animals, 25.4% (86) of the respondents agreed to the statement, 41.4% (140) strongly agreed, 21.9% (74) disagreed, 7.4% (25) strongly disagreed while 3.8% (13) of the respondents were undecided. The mean for the item was 3.72 and the standard deviation 1.385 indicating that cattle rustling have

caused unrest leading to movement of people from one place to another in search of safer areas to rear animals.

In a bid to establish whether the respondents live with relatives during conflicts, the respondents were asked to give their opinion. The results revealed that 36.7% (124) of the respondents agreed that they live with relatives during conflicts, 27.5% (93) of them strongly agreed, 23.4% (79) disagreed, 2.4% (8) strongly disagreed while 10.1% (34) of the respondents were undecided. The mean for the item was 3.64 and the standard deviation 1.181. The mean for this item clearly indicates that a significant number of the respondents live with relatives during conflicts for safety reasons.

The respondents were also asked whether conflict on water resources has made them to move to a place where they can find water. From the findings, 37% (125) of the respondents agreed that conflict has made them to move to a place where they can find water, 23.4% (79) of them strongly agreed, 17.5% (59) disagreed, 10.4% (35) strongly disagreed while 11.8% (40) of the respondents were undecided. The overall mean was 3.46 and the standard deviation 1.3. This means that conflict on water has made the respondents to move to a place where they can find water. However, compared to cattle rustling, water conflict has not caused much movement of people.

Additionally, 49.4% (167) of the respondents agreed that they have been displaced due to people fighting over land, 13.9% (47) of the respondents strongly agreed on the same, 23.7% (80) disagreed, and 8% (27) of them strongly disagreed while 5% (17) of the respondents were undecided. The item had a mean of 3.38 and standard deviation of 1.212. Further, 27.5% (93) of the respondents agreed that most of the families live like IDP due to conflict on land, 19.2% (65) of the respondents strongly agreed on the same, 23.7% (80) disagreed, 12.1% (41) strongly disagreed while 17.5% (59) of the

respondents were undecided. The mean for the item was 3.18 and the standard deviation was 1.319. On the whole, conflict over land has caused displacement of people to the extent that most of the families live like IDPs.

Similarly, 15.1% (51) of the respondents agreed that their house has been burned as a result of conflict on natural resources, 22.8% (77) of the respondents strongly agreed on the same, 41.4% (140) of them disagreed while 20.7% (70) of the respondents strongly disagreed. The mean for the item was 2.78 and the standard deviation 1.504. As well, 30.8% (104) of the respondents agreed that churches and NGOs offer secure institutions, 19.5% (66) of them strongly agreed, 20.4% (69) of them disagreed ,17.2% (58) of them strongly disagreed though 9.8% (33) of the respondents were undecided (mean = 3.15, SD = 1.418).

Finally, when asked whether the government has offered safe areas, 13.9% (47) of the respondents agreed, 2.4% (8) strongly agreed, 30.5% (103) disagreed ,43.8% (148) of them strongly disagreed while 9.5% (32) of the respondents were undecided. The mean for the item was 2.17 and the standard deviation 1.447. This is an indication that the government has not offered safe areas. The interviews conducted indicated that some areas are only for armed residence ("*muren cha kimuchi Karen kebe"*kerio valley).the places are for temporary settlements referred to as "*kiwar mui ketor"* (place and pick your belongings).

Table 4.7 Effect of Natural Resource Conflicts on Sedentary Settlement

		SD	D	UD	A	SA	Mean	Std. Deviation
I have been displaced due to people fighting over land	Freq.	27	80	17	167	47	3.38	1.212
	%	8	23.7	5	49.4	13.9		
Land conflict have forced many people to move from their residence	Freq.	9	26	22	177	104	4.01	0.961
	%	2.7	7.7	6.5	52.4	30.8		
Most of the families live like IDP due to conflict on land	Freq.	41	80	59	93	65	3.18	1.319
	%	12.1	23.7	17.5	27.5	19.2		
My house has been burned as results of conflict on natural resources	Freq.	70	140		51	77	2.78	1.504
	%	20.7	41.4		15.1	22.8		
Due to cattle rustling I move from one place to another looking for safe place rear my animals	Freq.	25	74	13	86	140	3.72	1.385
	%	7.4	21.9	3.8	25.4	41.4		
Conflict on water resources made me to move to a place where I can find water	Freq.	35	59	40	125	79	3.46	1.3
	%	10.4	17.5	11.8	37	23.4		
I live with relatives during conflicts	Freq.	8	79	34	124	93	3.64	1.181
	%	2.4	23.4	10.1	36.7	27.5		
The government has offered safe areas	Freq.	148	103	32	47	8	2.17	1.447
	%	43.8	30.5	9.5	13.9	2.4		
Churches and NGOs offer secure institutions	Freq.	58	69	33	104	66	3.15	1.418
	%	17.2	20.4	9.8	30.8	19.5		

4.6 Natural Resource Conflicts and Education

4.6.1 Schooling of Children

The third objective sought to establish whether children are still schooling. The results in figure 11 revealed that majority 89% (301) of the respondents affirmed that children are still schooling though 11% (37) of the respondents disagreed.

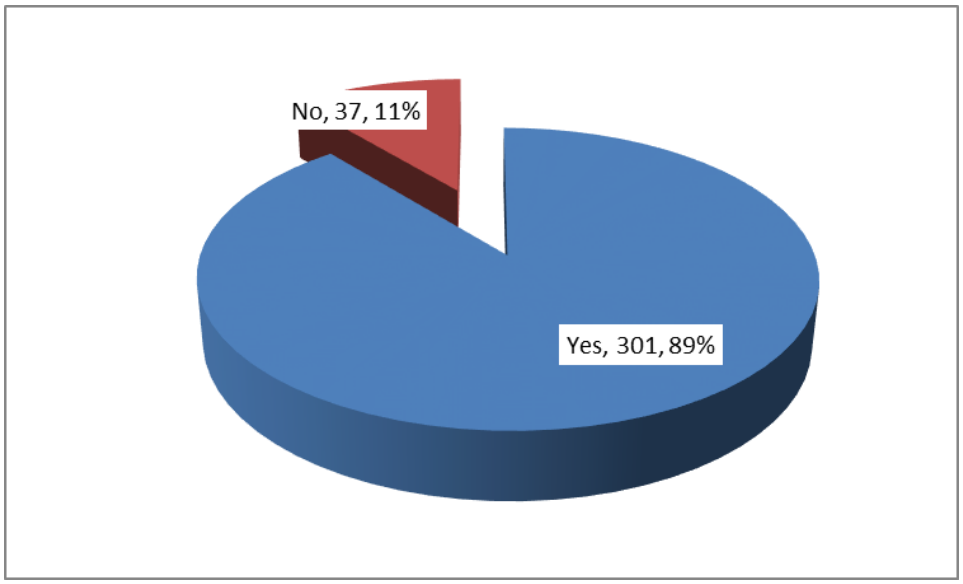

Figure 11 Schooling of Children

4.6.2 Conflict on Natural Resources affected you and your Children Education

The researcher sought to establish whether conflict on natural resources has affected the respondents and their children's education. Figure 11 illustrates the results. As shown in figure 12, 73% (248) of the respondents stated that conflict on natural resources has affected them and their children's education. However, 27% (90) of the respondents disagreed that conflict on natural resources has affected them and their children.

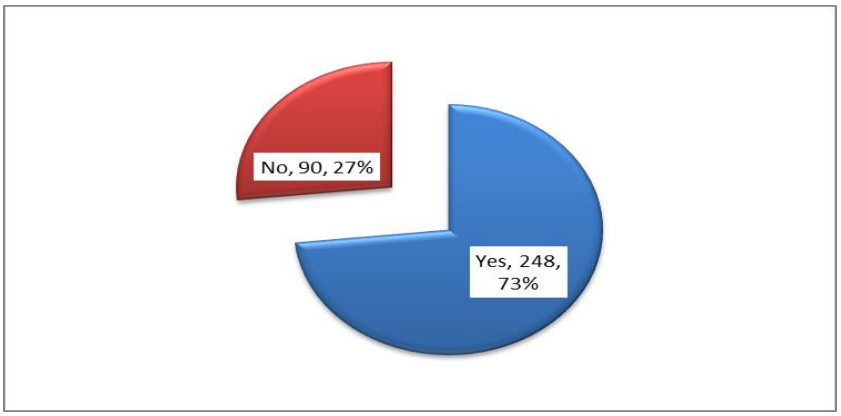

Figure 12 Conflict on Natural Resources Affected you and your Children Education

4.6.3 How Conflict on Natural Resources affect Children Education

This section of the research focused on how conflict on natural resources has affected children's education. Table 4.8 highlights the results. From the table, 25.4% (86) of the respondents stated that conflict on natural resources has led to the displacement from school to school, 18.9% (64) of them noted that as a result of natural resource conflict, there is no adequate income to pay for school fees, 17.2% (58) of them noted that wild animals roam in the area and 10.9% (37) noted that insecurity has kept children at home.

Table 4.8 How Conflict on Natural Resources affect Children Education

	Frequency	Percent
Wild animals roam in the area	58	17.2
Displaced from school to school/poor academics	86	25.4
No adequate income to pay for school fees	64	18.9
Insecurity keep children home	37	10.9

4.6.4 Natural Resource Conflict that affects Education most in the Area

The researcher found it necessary to establish the natural resource conflict that affects education most in the area. As evidenced in table 4.9,60.1% (203) of the respondents noted that cattle rustling affects education the most, 32.2% (109) water related conflicts, 26.6% (90) land based conflicts and 26.6% (90) of the respondents stated that human wildlife conflict has affected education the most. It is evident from the results that cattle rustling affect education the most. The lack of fees is attributed to the economic dependence on pastoralism, which is used to raise fees for children. This is impaired in case of cattle rustling thereby affecting education. Generally, natural resource conflict affects education negatively.

Table 4.9 Natural Resource Conflict that affects Education most in the Area

	Frequency	Percent
Cattle rustling	203	60.1
Water related conflicts	109	32.2
Land based conflicts	90	26.6
Human wildlife conflicts	90	26.6

4.6.5 Effect of Natural Resource Conflicts on Education

The researcher sought to establish the effect of natural resource conflicts on education. Table 4.10 illustrates the results. As evidenced in the table, 48.5% (164) of the respondents strongly disagreed that cattle rustling leads to pupils drop out of school (mean = 2.01, SD = 1.304).Similarly, 50.9% (172) of the respondents strongly disagreed that fighting over resources causes insecurity in learning institutions (mean = 2.06, SD = 1.343).Besides, 55.3% (187) of the respondents strongly disagreed that natural resource conflict disrupts learning activities in schools (mean = 1.61, SD = 0.798).

Table 4.10 Effect of Natural Resource Conflicts on Education

		SD	D	UD	A	SA	Mean	Std. Dev.
Cattle rustling leads to pupils drop out of school	Freq.	164	103	0	46	25	2.01	1.304
	%	48.5	30.5	0	13.6	7.4		
Fighting over resources causes insecurity in learning institutions	Freq.	172	78	0	71	17	2.06	1.343
	%	50.9	23.1	0	21	5		
Natural resource conflict disrupts learning activities in schools	Freq.	187	108	31	12	0	1.61	0.798
	%	55.3	32	9.2	3.6	0		
Resource conflicts force teachers to desert duty hence teacher shortages	Freq.	160	91	13	52	22	2.07	1.309
	%	47.3	26.9	3.8	15.4	6.5		
Informal education is evident in conflict prone areas than formal education	Freq.	147	145	2	27	17	1.88	1.097
	%	43.5	42.9	0.6	8	5		
Morans practicing cattle rustling have no opportunity for accessing education	Freq.	139	55	51	35	58	2.46	1.521
	%	41.1	16.3	15.1	10.4	17.2		
Conflict in natural resources leads high absenteeism of children due to insecurity	Freq.	244	46	25	23	0	1.49	0.899
	%	72.2	13.6	7.4	6.8	0		
Conflict over natural resources has caused death of school going children	Freq.	174	64	0	0	100	2.08	1.303
	%	51.5	18.9	0	0	29.6		
children dropped out of school to join cattle rustlers	Freq.	127	33	66	52	60	2.66	1.535
	%	37.6	9.8	19.5	15.4	17.8		

As well, 47.3% (160) of the respondents strongly agreed that resource conflicts force teachers to desert duty hence teacher shortages (mean = 2.07, SD = 1.309).Further, 43.5% (147) of the respondents strongly disagreed that informal education is evident in conflict prone areas than formal education (mean = 1.88, SD = 1.097). Additionally, 41.1% (139) of the respondents strongly disagreed that Morans practicing cattle rustling have no opportunity for accessing education (mean = 2.46,

SD = 1.521). When asked whether conflict in natural resources leads to high absenteeism of children due to insecurity, 72.2% (244) of the respondents strongly disagreed and 13.6% (46) of the respondents disagreed (mean = 1.49, SD = 0.899). In addition, 51.5% (174) of the respondents strongly disagreed that conflict over natural resources has caused death of school going children (mean = 2.08, SD = 1.303).Finally, 37.6% (127) of the respondents strongly disagreed that children dropped out of school to join cattle rustlers (mean = 2.66, SD = 1.535).

4.7 Natural Resource Conflicts and Biodiversity

4.7.1 Conflict on Natural Resources Affected Plants and Animals in your Area

The last objective examined whether conflict on natural resources has affected plant and animals in the area. As shown in Figure 13, 75% (254) of the respondents agreed that conflict on natural resources has affected plants and animals in their area. Nonetheless, 25% (84) of the respondents noted that conflict on natural resources has not affected plants and animals in their area.

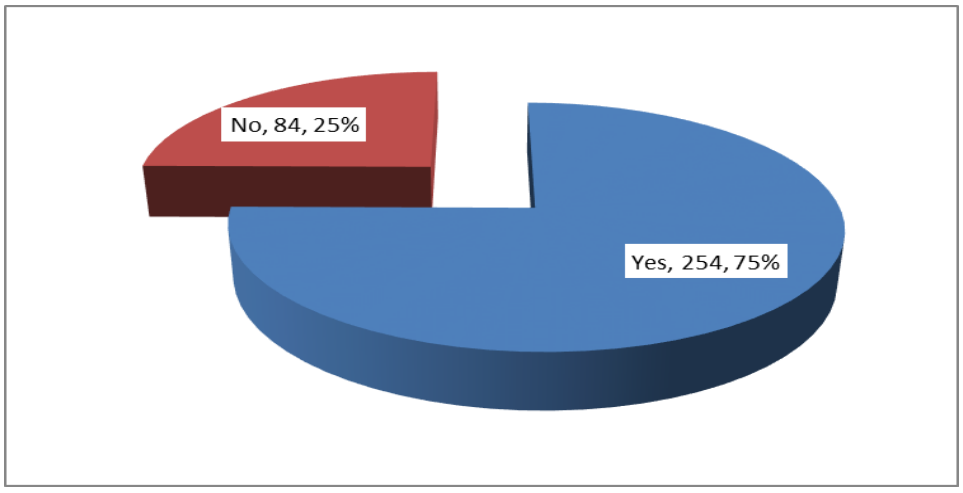

Figure 13 Conflict on Natural Resources Affected Plants and Animals in your Area

4.7.2 Effect of Conflict on Natural Resources on Biodiversity in the Area

Table 4.11 illustrates the effect of conflict on natural resources on biodiversity in the area. As shown in the table, 48.5% (164) of the respondents stated that conflict on natural resources has led to the destruction of plants and animals, 30.5% (103) of them noted that conflict on natural resources has led to habitat degradation, 16.3% (55) noted that it has reduced access to water points and 15.1% (51) of them stated that conflict on natural resources has reduced access to vital resources. Finally, 10.4% (35) of the respondents stipulated that conflict on natural resources has led to species loss and 17.2% (58) of them noted that the conflicts have led to alteration of the natural food chain.

Table 4.11 Effect of Conflict on Natural Resources on Biodiversity in the Area

	Frequency	Percent
Destruction of plants and animals	164	48.5
Habitat degradation,	103	30.5
Reduced access to water points and	55	16.3
Other vital resources,	51	15.1
Species loss,	35	10.4
Alteration of the natural food chain,	58	17.2

4.7.3 Natural Resource Conflict that Affects Biodiversity most

The researcher sought to establish the natural resource conflict that affects biodiversity the most. As evidenced in table 4.12, 61.5% (208) of the respondents stated that water related conflicts affect biodiversity the most, 39.6% (134) of them noted that land based conflicts affect biodiversity most, 38.8% (131) human wildlife conflict and 37.6% (127) of the respondents stated that cattle rustling affects biodiversity the most.

Table 4.12 Natural Resource Conflict that Affects Biodiversity most

	Frequency	Percent
water related conflicts	208	61.5
land based conflicts	134	39.6
human wildlife conflict	131	38.8
cattle rustling	127	37.6

4.7.4 Conflict and other social economic Activities

This section of the analysis sought to establish the activities that conflict encourages. The results are as presented in table 4.13.As shown in the table, 54.7% (185) of the respondents stated that conflict encourages charcoal burning/firewood, 57.1% (193) of them noted that it encourages gathering of wild fruits/berries, 48.8% (165) of them noted that it encourages hunting of wild game, 45.9% (155) encroachment to wetlands and 37.9% (128) of the respondents noted that conflict encourages extraction of medicinal herbs.

Table 4.13 Conflict and other social economic Activities

	Frequency	Percent
Charcoal burning/firewood	185	54.7
Hunting of wild game	165	48.8
Gathering of wild fruits/berries	193	57.1
Posts and poles/logs	122	36.1
Extraction of medicinal herbs	128	37.9
Encroachments to wetlands	155	45.9

4.7.5 Other Activities that Affect the Environments in your Area due to Conflict

The researcher also examined other activities that are affected by conflict. Figure 14 illustrates the findings of the study. From the figure, 45% of the respondents noted

that farming/cultivation/fishing is affected, 35.2% of them noted that there is over utilization of land and 19.8% of the respondents stated that there are diseases.

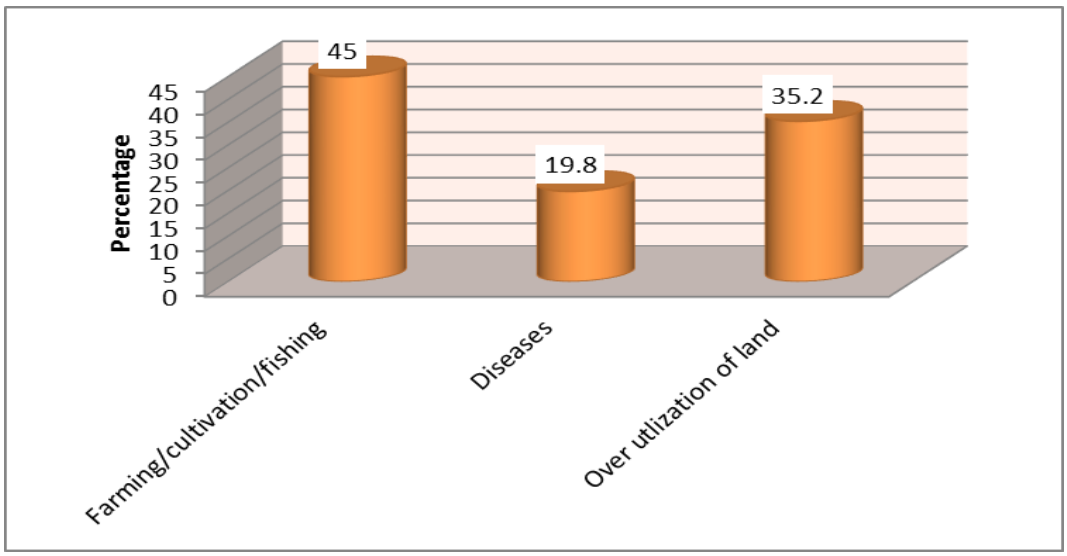

Figure 14 Other Activities that Affect the Environments in your Area due to Conflict

4.7.6 Animals and plants Affected by Conflicts

The researcher went a step further to establish animals and plants affected by conflicts.

Table 4.14 illustrates the results. Among the animals affected by conflict, 66.6% (225) of the respondents stated that cows, goats and sheep are affected, 22.2% (75) wild animals and 11.2% (38) of the respondents noted that both domestic (cows, goats and sheep) and wild animals are affected. With reference to plants affected by conflicts, 73.4% (248) of the respondents stated that peas, ground nuts, cotton and maize are affected, 19.5% (66) of them stated that forests are affected while 7.1% (24) of the respondents noted that forests and peas, ground nuts, cotton and maize are affected by conflicts.

Table 4.14 Animals and plants Affected by Conflicts

		Frequency	Percent
Animals affected by conflicts:	Cows goats and sheep	225	66.6
	Wild animals	75	22.2
	BOTH	38	11.2
	Total	338	100
Plants affected by conflicts:	peas, ground nuts, cotton and maize	248	73.4
	Forests	66	19.5
	BOTH	24	7.1
	Total	**338**	**100**

CHAPTER FIVE

DISCUSSIONS

5.1 Introduction

This chapter presents discussion of the study under; effect of natural resource conflicts on agricultural activities of the Arror community in Baringo North Sub-County, effect of natural resource conflicts on communities' permanent settlement in Baringo North Sub-County, effect of natural resource conflicts on education in Baringo North Sub-County, and effect of natural resource conflicts affects biodiversity in Baringo North Sub County.

5.2 Discussions

5.2.1 Effect of Natural Resource Conflicts on Agricultural Activities of the Arror Community in Baringo North Sub-County

The study was carried out to investigate the effects of natural resource conflicts and its impacts on household socio-economic activities of the Arror community in Baringo North sub-county. The study adopted descriptive survey research design. Data was collected by use of questionnaires and interview schedules. Data was analyzed using descriptive statistics and it revealed that majority of the respondents are female. Most of them are between 30 and 40 years with a few of them being over 50 years. In terms of education level, most of them have a primary and secondary certificate though a significant percentage of them are illiterate. In light of this, most

of the respondents are farmers and herders. In regards to the respondents' marital status, majority of them are married with only a few being divorced.

The first objective of the study was to establish whether natural resource conflicts affect agricultural activities. The results in chapter four have revealed that conflict on resources have affected agricultural activities. Some of these conflicts include cattle rustling, water related conflicts, and land based conflicts and human wildlife conflict. These conflicts have resulted to burning of plants, closure of Agro vet shops and eventually reduced agricultural production. In the case of cattle rustling, there is restricted movement of animals hence only a few of the cows can be reared. Animals are therefore sold at a loss due to cattle rustling. Further, conflict on water resources has made the respondents to buy water as well as dig boreholes that are costly.

As evidenced in the findings, natural resource conflicts have a negative effect on agricultural activities. It leads to reduced agricultural production and restricted movement of animals. In line with the results, more than half of the countries where undernourishment is most prevalent experienced conflict during the 1990s (FAO, SOFI 2003).In a similar vein, Mohammed, (1999) posits that conflict has severe negative economic and social consequences. As well, De Soysa*et al* (1999) infers that resource conflicts undermine the productive capacity of agriculture especially in countries whose economies are highly dependent on agriculture.

5.2.2 Effect of Natural Resource Conflicts on Communities' Permanent Settlement in Baringo North Sub-County

The second objective of the study was to determine whether natural resource conflicts affect communities' permanent settlement in Baringo North Sub-County. It is clear

from the results in the previous chapter that natural resource conflicts have affected the communities' permanent settlement. The conflicts have made it difficult for the respondents to build a permanent house for the fear of it being destroyed. They have therefore slept in tents while others have resorted to living elsewhere for safety. All these have been contributed by cattle rustling, land based conflicts, s water related conflicts and human wildlife conflict.

From the preceding findings, it is clear that natural resource conflicts have forced many people to move from their residence to look for safer places to stay as well as rear their animals. Consistently, Doss, (2008) echoes that besides lack of pasture and water, pastoralists' migration could also be influenced by the perceived threats of cattle rustling and the insecurity generated by it. Similarly, land conflicts have a potential to turn into widespread civil wars (Renner, 1997; Andre and Plateau, 1998). Furthermore, as argued by Mkutu, (2000) scarcity of pasture and water depletes a community's' livestock making the pastoralists replenish their livestock through rustling.

5.2.3 Effect of Natural Resource Conflicts on Education in Baringo North Sub-County

The third objective of the study was to establish whether natural resource conflicts affect education in Baringo North Sub-County. It was revealed that natural resource conflict has affected children's education. The conflicts have brought about insecurity, inadequate income to pay for school fees and displacement of children from school to school. Cattle rustling however have not led to pupil drop out from school, disrupted learning activities and forced teachers to desert duty.

The conflicts bring about insecurity making it a challenge for children to go to school. Consistently, O' Malley, (2010) notes that conflicts in form of attacks leads to deaths of teachers and students, destruction of infrastructure, and absenteeism among the learners. Death of school going children was also evidenced by the study. This is similar to findings by the 1996 United Nations report on the Impact of Armed Conflict on Children that revealed that six million children were seriously injured or permanently disabled, and millions more were separated from their families, physically abused as a result of natural resource conflicts. Also, in the case of Rwanda, a number of children were physically and psychologically maimed and forced to flee their homes due to conflicts (Cantwell 1997). In a similar vein, United Nations Children Fund (2010) established that many parents in conflict regions of Kenya refuse to send their children to school for fear of being attacked. Further support to the study findings is by Katam, (2012) who notes that cattle rustling among pastoral communities living in Baringo district are one of the factors contributing to insecurity causing low access to schools. Findings of this study reveal the desire for children to have formal education despite the inherent conflicts. The respondents have hope that Morans practicing cattle rustling have an opportunity for accessing education. As evidenced by majority of the respondents, cattle rustling has not contributed to pupil drop out, disrupted learning activities and forced teachers to desert duty. Based on the results, there are isolated cases of death of school going children and high absenteeism due to insecurity.

5.2.4 Effect of Natural Resource Conflicts affects Biodiversity in Baringo North Sub County.

The fourth objective of the study was to assess whether natural resource conflicts affects biodiversity. The findings of the study revealed that natural resource conflicts have affected plants and animal in Baringo North Sub County. Specifically, conflict on natural resources has led to the destruction of plants and animals, habitat degradation and reduced access to water points. Further, the conflicts have encouraged charcoal burning, gathering of wild fruits/berries and encroachment to wetlands. In light of the foregoing results, it can be deduced that natural resource conflicts have a negative influence on biodiversity. There is charcoal burning, encroachment to wetlands and destruction of animals. Consistently, Irandu, (2003) echoes that many animals, plants and insect species are fast disappearing due to natural resource conflicts. In the same way, Gasana (1997) asserts that the growth and influx of refugees in Rwanda increased food demand hence leading to firewood and water scarcity.

CHAPTER SIX

CONCLUSIONS AND RECOMMENDATIONS

6.1 introductions

This chapter presents conclusions, recommendations and areas for other studies

6.2 conclusions

It is evident that natural resource conflict has a detrimental effect on agricultural activities adversely. Particularly, conflict on land has affected crop production to the extent that it is difficult to produce enough food for selling and consumption. As such, some of the respondents have been forced to lease their land.

Natural resource conflicts have had a negative effect on the communities' permanent settlement. For instance, land conflict has forced many people to move from their residence. Further, conflict on water resources has made the respondents to move to a place where they can find water. Also, cattle rustling have made them to move from one place to another looking for a safe place to rear animals. Despite these challenges, churches and NGOs have offered a safe house for those that are internally displaced as a result of conflict. However, the government has not done much in regards to offering safe areas.

In conclusion, the study has revealed that natural resource conflict has affected education. However, the fight over resources has not brought about insecurity in learning institutions and forced teachers to desert duty. Thus Moran practicing cattle rustling have an opportunity for accessing education.

Finally, natural resource conflicts are an impediment to biodiversity. Of all the conflicts, water related conflicts affect biodiversity the most. The animals affected by the conflicts include cows, goats and sheep as well as wild animals. The plants include peas, ground nuts, cotton, maize and the forest cover. All this is a result of natural resource conflict.

6.3. Recommendations

i. It is evident that natural resource conflicts have a negative influence on agricultural activities. There is therefore need for food policies aimed at improving people's resilience, preparing to take advantage of lulls in conflict and helping to prevent further natural resource conflicts. Efforts should also be made by both the county government and the Arror community to identify alternative livelihood activities. This will help reduce their dependence on the natural resources and thereby improve the livelihood conditions of the communities.

ii. Natural resource conflicts lead to the displacement of people from their permanent settlement. There is therefore need for protection of property rights as well as conflict resolution mechanisms within the host communities. The county government needs to offer safe areas for those displaced and compensate them accordingly. The rule of law should also take root in dealing with the perpetrators of natural resource conflicts.

iii. Deliberate actions should be taken to heighten educational activities among the Arror. It is important to improve security around the schools. Improving the security around schools would safeguard learning infrastructure in the

schools and reduce interruptions to learning processes. The security would allow the deployment of more teachers in the school and improve syllabus coverage. These would collectively improve the quality of education.

iv. The national government, county government of Baringo and development partners should ensure conflict resolutions are put in place to enable the Arror settle permanently. This will provide water harvesting opportunities thereby reducing conflicts. In addition, there should ensure better road network that are accessible by security personnel to respond to distress calls thus mitigating eruption of serious and brutal conflicts.

v. There is need to engage the Arror community in the conservation of biodiversity resources in order to avoid destruction of plants and animals together with habitat degradation. There is also need to build the capacity of the Arror communities and support them in exploring alternative livelihood interventions that are sustainable and viable in meeting their livelihood. This will help reduce their dependence on the natural resources and thereby improve the livelihood conditions.

6.4 Areas for Further Research

This study has analyzed the effects of natural resource conflicts and its impacts on household socio-economic activities of the Arror community in Baringo North sub-county. The sample was drawn from only Baringo North Sub-County, thus this study may be limited in its generalizability of the findings. Further, the study included only four factors, there could be some other relevant factors that may be perceived as

important but were excluded from this study. Future researches, therefore, may consider;

i. More factors, like the type, origin, level and nature of conflicts in the use of natural resources.

ii. Conflict management systems in addressing natural resource conflicts.

iii. Conducting a replication study in nomadic pastoralist areas is needed in order to establish whether the findings of the study hold.

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APPENDICES

APPENDIX I: CONSENT LETTER

CHRISTOPHER K. CHELIMO

KISII UNIVERSITY

P.O. BOX 161

KABARTONJO

Dear Sir/ Madam,

RE: **NATURAL RESOURCE CONFLICT AND SOCIO-ECONOMIC ACTIVITIES IN BARINGO NORTH SUB-COUNTY, BARINGO COUNTY, KENYA.**

I am a student pursuing a Degree of Masters of Arts in Geography at Kisii University. My area of study is stated above. I hereby kindly ask you to fill this questionnaire which will enable the researcher to obtain important information from the research

The information offered will be treated with the necessary confidentiality and will not be unduly disclosed. The information will only be used as pertaining to this study and not otherwise.

Your assistance and co-operation will highly be appreciated

Yours sincerely,

CHRISTOPHER K. CHELIMO

APPENDIX II: QUESTIONNAIRE FOR RESPONDENTS

I am a student at Kisii University carrying out a research on **NATURAL RESOURCE CONFLICT AND ITS IMPACTS ON HOUSEHOLD SOCIO-ECONOMIC ACTIVITIES IN BARINGO NORTH SUB-COUNTY, KENYA.**

The information requested in the questionnaire is meant for academic purposes only and confidentiality will be upheld. Kindly assist in filling the questionnaire. Please do not write your name for confidentiality purpose.

PLEASE NOTE

a. The information given on this questionnaire will be held in strict confidence and will be used only for the purpose of study

b. If any of the questions may not be appropriate to your circumstance, you are under no obligation to answer.

c. Thank you for participating in this study.

SECTION A: DEMOGRAPHIC INFORMATION

(Please tick where appropriate)

1. **What is your gender**
   a) Male [ ]
   b) Female [ ]
2. **What is your age bracket?**
   a) 20-30 years [ ]
   b) 30-40 years [ ]
   c) 40-50 years [ ]
   d) Above 50 years [ ]
3. **What is your academic qualification?**
   a) Primary certificate [ ]
   b) Secondary certificate [ ]
   c) Diploma [ ]
   d) Degree [ ]
   e) None [ ]

4. What is your marital status?
   a) Married [ ]
   b) Divorced [ ]
   c) Single [ ]
5. What is your current occupation?
   a) Herder [ ]
   b) Farmer [ ]
   c) Business person [ ]
   d) Professional [ ]

SECTION B: NATURAL RESOURCE CONFLICTS AND AGRICULTURAL ACTIVITIES

6. Have you ever experience conflicts on resources?

   Yes ☐ No ☐

7. If yes which of the following natural resource conflict have experienced?

   Land based conflicts ☐
   Water related conflicts ☐
   Cattle rustling ☐
   Human Wildlife conflict ☐

8. Does conflict on natural resources affect your agricultural activities?
   Yes ☐ No ☐

9. If yes please explain how

……

Which of the following natural resource conflict affect your agriculture activities most

   Land based conflicts ☐
   Water related conflicts ☐
   Cattle rustling ☐
   Human Wildlife conflict ☐

10. Below is statement on how natural resource conflicts affect agricultural activities. Please tick appropriately the ones which apply to you.

KEY: **SA**-Strongly Agree **A**-Agree **UD**-Undecided **D**-Disagree **SD**-Disagree

STATEMENT	**SA**	**A**	**UD**	**D**	**SD**
My crops production have been affected by conflict on land					
Due to conflict on agricultural lands I cannot be able to produce enough food foe sealing and consumption					
Due to conflict am now forced to lease my land					
I can only rear few cows since cattle rustling has restricted movement of animals to grazing					
Most of the time I sell my animal at loss for fear of cattle rustling					
Cattle rustling force me to sell my cows even before they mature					
conflicts on water resources have made me to search for more to dig borehole which is costly					
I now buy my own water from outside due to conflict of water resources					

SECTION C: NATURAL RESOURCE CONFLICTS AND PERMANENT SETTLEMENT

11. Have been living in these areas since birth

    Yes ☐ No ☐

12. Has conflict on natural resources affected you settlement?

    Yes ☐ No ☐

13. If yes, please explain how

……

14. Which of the following natural resource conflict affect your permanent settlement most

    Land based conflicts ☐

    Water related conflicts ☐

    Cattle rustling ☐

    Human Wildlife conflict ☐

15. Below is statement on how natural resource conflicts affect your permanent settlement. Please tick appropriately the ones which apply to you.

KEY: **SA**-Strongly Agree **A**-Agree **UD**-Undecided **D**-Disagree **SD**-Disagree

Statement	**SA**	**A**	**UD**	**D**	**SD**
I have been displaced due to people fighting over land					
Land conflict have forced many people to move from their residence					
Most of the families live like IDP due to conflict on land					
My house has been burned as results of conflict on natural resources					
Due to cattle rustling I move from one place to another looking for safe place rear my animals					
Conflict on water resources made me to move to a place where I can find water					

SECTION D: NATURAL RESOURCE CONFLICTS AND EDUCATION

16. Do you have children who are still schooling

Yes ☐ No ☐

17. Has conflict on natural resources affected you and your children education?

Yes ☐ No ☐

18. If yes, please explain how

……

19. Which of the following natural resource conflict affect education most in your area

Land based conflicts ☐

Water related conflicts ☐

Cattle rustling ☐

Human Wildlife conflict ☐

20. Below is statement on how natural resource conflicts affect education in your area. Please tick appropriately the ones which apply to you.

KEY: **SA**-Strongly Agree **A**-Agree **UD**-Undecided **D**-Disagree **SD**-Disagree

Statement	**SA**	**A**	**UD**	**D**	**SD**
Cattle rustling leads to pupils drop out of school					
Fighting over resources causes insecurity in learning institutions					
Natural resource conflict disrupts learning activities in schools					
Resource conflicts force teachers to desert duty hence teacher shortages					
Informal education is evident in conflict prone areas than formal education					
Morans practicing cattle rustling have no opportunity for accessing education					
Conflict in natural resources leads high absenteeism of children due to insecurity					
Conflict over natural resources has caused death of school going children					

SECTION F: NATURAL RESOURCE CONFLICTS AND BIODIVERSITY

21. Has conflict on natural resources affected biodiversity in your area?

Yes ☐ No ☐

22. If yes, please explain how

……

……

……

23. Which of the following natural resource conflict affect biodiversity most in your area

Land based conflicts ☐

Water related conflicts ☐

Cattle rustling ☐

Human Wildlife conflict ☐

24. Does conflict encourage the following activities

Charcoal burning/firewood ☐

Hunting of wild game ☐

Gathering of wild fruits/berries ☐

Posts and poles/logs ☐

Extraction of medicinal herbs ☐

Encroachments to wetlands ☐

25. Please indicate any other activities that affect the environments in your due to conflict……

……

……

APPENDIX III: INTERVIEW SCHEDULE FOR AREA CHIEFS AND EDUCATION OFFICERS

How are you Sir/Madam I am Chelimo Christopher Kibet from Kisii University.

Welcome to this interview session. I am going to ask you some questions about application of child centred approach on teaching and learning in your school.

Please feel free and respond appropriately. To begin with:

The following questions will guide the researcher

1. How does a natural resource conflict affect agricultural activities of the Arror community in Baringo North Sub-County?
2. How does a natural resource conflict affect community's permanent settlement of the Arror community in Baringo North Sub-County?
3. What are the effects of natural resource conflicts on education of the Arror community in Baringo North Sub-County?
4. How do natural resource conflicts affect biodiversity of the Arror community in Baringo North Sub-County?

APPENDIX IV: INTERVIEW SCHEDULE FOR NEMA OFFICIAL

How are you Sir/Madam I am Chelimo Christopher Kibet from Kisii University.

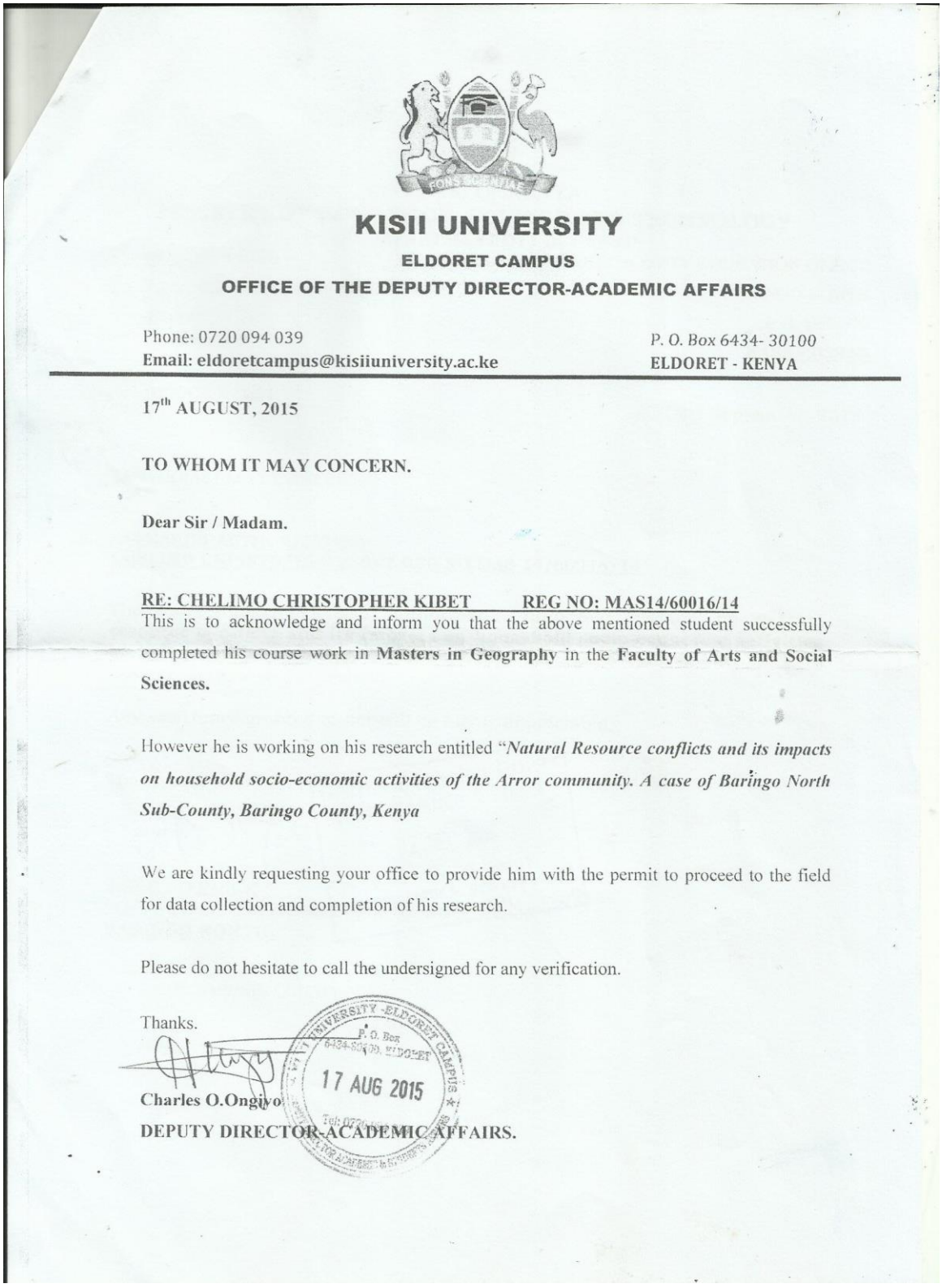
Welcome to this interview session. I am going to ask you some questions about application of child centred approach on teaching and learning in your school.

Please feel free and respond appropriately. To begin with:

The following questions will guide the researcher

1. How is conflict in the area affected biodiversity?
2. What do you do to prevent conflict from interfering with biodiversity in the area?

APPENDIX V: RESEARCH AUTHORIZATION LETTER (INSTITUTION)



KISII UNIVERSITY

ELDORET CAMPUS

OFFICE OF THE DEPUTY DIRECTOR-ACADEMIC AFFAIRS

Phone: 0720 094 039
Email: eldoretcampus@kisiiuniversity.ac.ke

P. O. Box 6434- 30100
ELDORET - KENYA

17th AUGUST, 2015

TO WHOM IT MAY CONCERN.

Dear Sir / Madam.

RE: CHELIMO CHRISTOPHER KIBET REG NO: MAS14/60016/14

This is to acknowledge and inform you that the above mentioned student successfully completed his course work in **Masters in Geography** in the **Faculty of Arts and Social Sciences.**

However he is working on his research entitled "***Natural Resource conflicts and its impacts on household socio-economic activities of the Arror community. A case of Baringo North Sub-County, Baringo County, Kenya***

We are kindly requesting your office to provide him with the permit to proceed to the field for data collection and completion of his research.

Please do not hesitate to call the undersigned for any verification.

Thanks.

17 AUG 2015

Charles O.Ongivo
DEPUTY DIRECTOR-ACADEMIC AFFAIRS.

APPENDIX VI: RESEARCH AUTHORIZATION LETTER (MINISTRY OF EDUCATION SCIENCE AND TECHNOLOGY)

REPUBLIC OF KENYA

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY

STATE DEPARTMENT OF EDUCATION

Phone: 053/44055
Tel/Fax: 020 232 9055
Email address
deobaringonorth@yahoo.com

SUB COUNTY EDUCATION OFFICE
BARINGO NORTH
P.O. BOX 79
KABARTONJO

Ref: **BRN/GEN/16/82**

2nd September, 2015.

TO WHOM IT MAY CONCERN

RESEARCH AUTHORIZATION
CHELIMO CHRISTOPHER KIBET REG NO.MAS 14/60016/14

The above named has been authorized to undertake research on **'Natural resource conflicts and its impacts on household socio-economic activities of the Arror community. A case of Baringo North Sub County,Baringo County, Kenya'** as Requested.

Any assistance granted to her will be highly appreciated

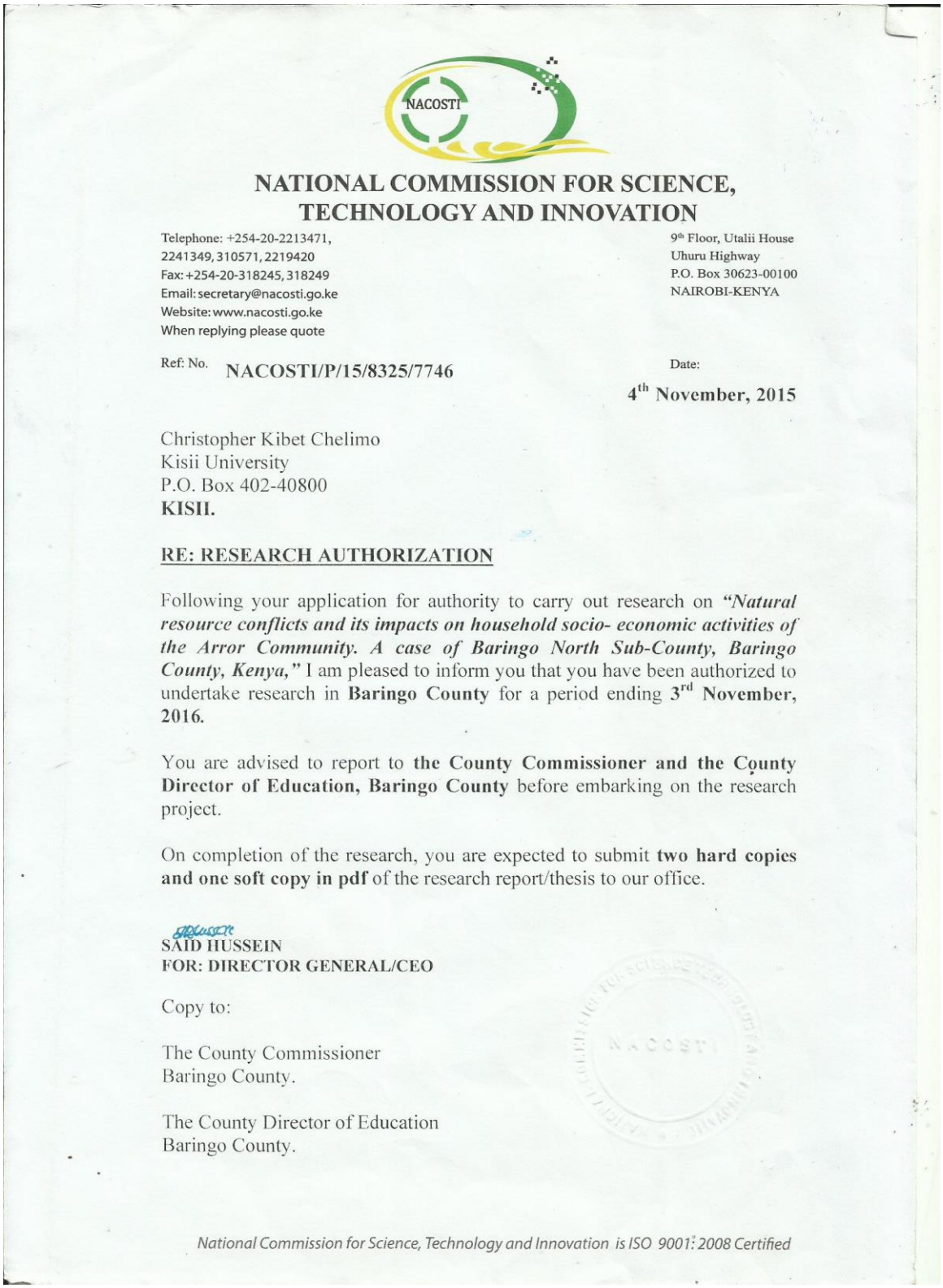
Thank you.

District Education Officer
NORTH BARINGO DISTRICT
02 SEP 2015
P. O. Box 79 - 30401,
Tel/Fax 44055, 020 - 2329055
KABARTONJO

WERE O.ERICK
FOR: SUB COUNTY DIRECTOR OF EDUCATION
BARINGO NORTH.

CC
CDE BARINGO COUNTY

APPENDIX VII: RESEARCH AUTHORIZATION LETTER (NACOSTI)



NACOSTI

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

Telephone: +254-20-2213471,
2241349, 310571, 2219420
Fax: +254-20-318245, 318249
Email: secretary@nacosti.go.ke
Website: www.nacosti.go.ke
When replying please quote

9th Floor, Utalii House
Uhuru Highway
P.O. Box 30623-00100
NAIROBI-KENYA

Ref: No. **NACOSTI/P/15/8325/7746**

Date: **4th November, 2015**

Christopher Kibet Chelimo
Kisii University
P.O. Box 402-40800
KISII.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on ***"Natural resource conflicts and its impacts on household socio- economic activities of the Arror Community. A case of Baringo North Sub-County, Baringo County, Kenya,"*** I am pleased to inform you that you have been authorized to undertake research in **Baringo County** for a period ending **3rd November, 2016.**

You are advised to report to **the County Commissioner and the County Director of Education, Baringo County** before embarking on the research project.

On completion of the research, you are expected to submit **two hard copies and one soft copy in pdf** of the research report/thesis to our office.

SAID HUSSEIN
FOR: DIRECTOR GENERAL/CEO

Copy to:

The County Commissioner
Baringo County.

The County Director of Education
Baringo County.

National Commission for Science, Technology and Innovation is ISO 9001: 2008 Certified

APPENDIX VIII: RESEARCH AUTHORIZATION LETTER (OFFICE OF THE PRESIDENT)

OFFICE OF THE PRESIDENT

MINISTRY OF INTERIOR

&

CO-ORDINATION OF NATIONAL GOVERNMENT

Telegrams.....
Telephone: 020-2446648
When replying please quote
Fax: 020-2446627
Ref. NO: ADM.13/13 VOL.1 /77

DEPUTY COUNTY COMMISSIONERS OFFICE,
BARINGO NORTH SUB COUNTY,
P.O. BOX 100,
KABARTONJO.
Date: 1st September, 2015

All Chiefs,
Baringo North

RE: RESEARCH AUTHORIZATION
CHRISTOPHER K. CHELIMO - KISII UNIVERSTIRY

The above named has been authorized to undertake research on ***"Natural Resource Conflicts and its impacts on household Socio-economic activities of the Arror Community"***. **A case of Baringo North Sub-County**. This research will take a period of three (3) months (September, 2015 – November, 2015).

This is to bring this to your attention and all Assistant chiefs in your respective Location to accord Christopher necessary cooperation.

DEPUTY COUNTY COMMISSIONER
BARINGO NORTH

JOSHUA O. OGANGO
DEPUTY COUNTY COMMISSIONER
BARINGO NORTH

cc

1. Sub County Education Officer
   Baringo North
2. Christopher K. Chelimo
   Box 161,
   Kabartonjo

APPENDIX IX: RESEARCH PERMIT (NACOSTI)

THIS IS TO CERTIFY THAT:
MR. CHRISTOPHER KIBET CHELIMO
of KISII UNIVERSITY, 161-30400
kABARTONJO,has been permitted to
conduct research in *Baringo County*

on the topic: *NATURAL RESOURCE CONFLICTS AND ITS IMPACTS ON HOUSEHOLD SOCIO- ECONOMIC ACTIVITIES OF THE ARROR COMMUNITY. A CASE OF BARINGO NORTH SUB-COUNTY,BARINGO COUNTY, KENYA.*

for the period ending:
3rd November,2016

Permit No : NACOSTI/P/15/8325/7746
Date Of Issue : 4th November,2015
Fee Recieved :Ksh 1,000

Applicant's Signature

Director General
National Commission for Science, Technology & Innovation

CONDITIONS

1. You must report to the County Commissioner and the County Education Officer of the area before embarking on your research. Failure to do that may lead to the cancellation of your permit
2. Government Officers will not be interviewed without prior appointment.
3. No questionnaire will be used unless it has been approved.
4. Excavation, filming and collection of biological specimens are subject to further permission from the relevant Government Ministries.
5. You are required to submit at least two(2) hard copies and one(1) soft copy of your final report.
6. The Government of Kenya reserves the right to modify the conditions of this permit including its cancellation without notice

REPUBLIC OF KENYA

NACOSTI

National Commission for Science, Technology and Innovation

RESEARCH CLEARANCE PERMIT

Serial No. A 7062

CONDITIONS: see back page

APPENDIX X: MAP BARINGO NORTH

(**Source:** Regional Centre for Mapping Resource Development, 2013)