NATURAL RESOURCE BASED CONFLICTS: A CASE STUDY OF TANA RIVER COUNTY, KENYA

BY

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DECLARATION

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This thesis is my original work and has not been submitted for a degree in any other university.

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Dedication

I wish to devote this thesis to my mother, Mrs Grace Kwele, for her effort and sacrifice that saw me and my siblings attain the education we got. Mum your effort was not in vain, may the almighty God bless you abundantly.

This thesis is also devoted to my dear wife, Mrs.Linah Cherono for her encouragement and support during this study. You are my pillar and your prayers and moral support has borne sweet ripe fruits. God be with you always.

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ASAL- Arid and Semi-Arid Lands

ASDSP - Agriculture Sector Development Support Programme

CBO- Community Based Organization

CL- Coastal Lowlands

FT/Framework Team -Interagency Framework Team for Preventive Action

GOK-Government of Kenya

ITCZ -Inter Tropical Conventional Zone

KBC-Broadcasting Corporation

KMO-Kaiser-Meyer-Olkin Measure

MCA - Members of County Assembly

MP- Members of Parliament

NGO –Non-Governmental Organization

NRM - Natural Resource Management

RCA - Report of the Commission for Africa

SDB -Southern Durban Basin

SPSS-Statistical Package for Social Scientists

TARDA-Tana and Athi River Development Authority

TNI-Transnational Institute

USIP-United States institute for peace

VIF-Variance Inflation Factors

ABSTRACT

NATURAL RESOURCE BASED CONFLICTS: A CASE STUDY OF TANA RIVER COUNTY, KENYA

This study aims to comprehend the causes and consequences of the conflicts in Tana River County. Though the conflict in Tana River has been on and off for a long time, it has heightened in the recent past to worrying proportions. This has led to a need for further analysis of the conflict to unearth the factors exacerbating it.

The Research questions that guided the study were: What are the factors that have continued to cause conflict among pastoralists and agro pastoralists in Tana River County? And what is the impact of conflicts on economy, education, and health together with food security in Tana River County?

The General objective of the study was to understand the causes and consequences of the conflicts on the social and economic development of Tana River County and the Specific objectives included to establish factors that have continued to enhance conflicts, assess the economic effects of the conflict at household level in Tana River County, determine the impact of conflict on education and health service provision, and to determine the impact of the conflicts on food security

The literature reviewed included secondary data concerning conflicts, pastoralism and food security with specific reference to Tana River. The concepts of resource endowment and resource curse are discussed with examples to elucidate the concepts. Major stakeholders in Tana River were analyzed to elucidate their roles in the conflicts and conflict resolution. In this study the conceptual framework of interaction is applied to explain the various relationships. The frame work shows that the factors that lead to conflicts and the factors can be classified as immediate, intermediate and structural. The frame work also recognizes that there are various actors in the conflict and this include, Pastoralists, farmers, and fisher folk, leaders, administrators, CSOs, NGOs, Government, Women and children. The effects of the conflict were established and included lack of development; Gender based violence, poor infrastructure, lack of portable water, high incidences of poverty, high cost of living, poor education, and poor health. Due to conflicts,

the farming community is left with reduced crop yield, while the pastoral community is faced with reduced livestock yields, increased casualties and deaths as a result of conflict, communities are displaced and their property destroyed. Further, social services are affected leading to closure of schools, health centers and limitation of outdoor activities as insecurity escalates in the county.

The study concludes that the main causes conflicts was contest over natural resources and these conflicts had massive impact on social and economic development of the county. Further the study concludes that peace talks was a method of coping with conflicts

It was recommended that the county government in conjunction with the national government and other development partners should consider the following:

- rehabilitate the collapsed irrigation schemes in Bura, Hola and Tana Delta to provide alternative livelihood support to the residents,
- The provision of sustainable water supply to the pastoral community through construction of earth dams, rehabilitation of existing boreholes and drilling new boreholes. The borehole should be fitted with renewable energy sources like solar for sustainability.
- Improved capacity of the pastoral community on modern livestock husbandry practices including observance of the recommended land carrying capacity, pasture establishment and conservation.
- Improved capacity of the farmers through proper value chain analysis of the crop enterprises, improved marketing of produce and crop diversification.
- Improved citizen participation in development projects, decision making especially on use of the available natural resources in the county.
- Encourage alternative dispute resolution to address the natural resource based conflicts

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background

Natural resources are part and parcel of our daily lives in the part they play, as a source of income, industry, and identity. It has been observed that the developing countries depend more on natural resources as their high-ranking source of income, and many of them derive their livelihoods directly from these resources and are directly tied to local natural resources; most of the rural dwellers subsist on agriculture, timber, fisheries, minerals, as their primary income sources (USIP 2007).

The administration of land and natural resources is a standout amongst the most basic difficulties confronting developing nations today. The abuse of high-esteem characteristic assets, including oil, gas, minerals and timber has often been referred to as a key factor in activating, heightening or maintaining brutal conflicts around the world. Besides, expanding rivalry over decreasing sustainable assets, for example, land and water, are on the ascent (FT 2012)

Once a nation or a group take part in common war, its danger of further clash takes off. Struggle debilitates the economy and leaves a heritage of outrages. It additionally makes pioneers and associations that have put resources into aptitudes and hardware that are valuable for savagery. Irritatingly, while the mind greater part of the populace in a nation influenced by common war experiences it, the pioneers of military associations that are really executing the viciousness frequently do well out of it. The possibility of monetary profit is only here and there the essential

inspiration for insubordination, yet for some it can turn into an attractive lifestyle. This is a further motivation behind why the members in a common war ought not to be forgotten to battle it among themselves. Some proof proposes that step by step, common wars have been getting longer. While this might be because of conditions in singular nations, it more probable reflects worldwide changes that have made common wars simpler to manage by permitting rebel gatherings to raise back and obtain weapons all the more effectively (FT 2012)

The contention that more often than not occur in Tana River between the Orma and the Pokomo people group is focused on characteristic asset client rights essentially land, water and different assets because of their disparities in occupation and their varying point of view on assets between the two groups. Natural resource utilization clashes have heightened in Tana River because of expanding weight on the common assets. The natural resource clashes have displayed themselves as human and human – human clashes. These contentions have been connected with rivalry for grazing fields and farmland. This has in the past set Pokomo sedentary group against Orma pastoral group prompting death toll and devastation of property. As farmers from Pokomo community expand their farms along the river, including in pastureland confrontation arises as Orma pastoral community graze in the farm (Otundo, 2010)

The Pokomo are predominantly farmers and support individual land ownership tenure. On the other hand, the Orma are mainly pastoralists and make a living out of communal land ownership regime where land, pasture and water resources are shared.

1.2 Statement of the research problem

Historically, pressure along pastoral access corridors over land and rights to graze amongst pastoralists and ranchers has been going ahead since time immemorial and the contentions were settled customarily. Pastoralists are the best caretakers of dry grounds situations; however, their stewardship is undermined by unseemly arrangements and solid rivalry over their natural resources (IUCN, 2006)

The conflict has transformed and is beyond local solutions due to economic and political marginalization, active resistance to assimilation, resource depletion, demographic changes, climatic conditions, cattle rustling, small arms proliferation and government policies. This leads to negative socio-economic impacts including poor infrastructure, increased poverty, poor health, food insecurity and low education among pastoralists. There has been a continued conflict which has led to economic losses and loss of lives.

This investigation intended to comprehend the causes and consequences arising from the conflicts in Tana River County. Though the conflict in Tana River has been on and off for a long time, it has heightened in the recent past to worrying proportions. This has led to a need for further analysis of the conflict to unearth the other factors which may be fueling the conflict.

The emerging factors included political influences, availability of small arms from unstable neighboring countries and alienation of large tracts of land for agricultural production. Another factor which contributed to conflict is the perceived and perhaps real marginalization of the communities by the state policies which have systematically failed to adequately respond and address the conflicts, which has led to communities arming themselves against their rival groups.

Tana River is one of the least developed regions in the country with vast land mass, high rates of poverty and very poor infrastructure, the rate of destitution (grown-up proportional neediness head check) is 76.9% higher than the national rate of 45.9% and its positioned 43/47 (KHBS, 2005), all these exacerbate the feeling of insecurity and hence the need for self-protection using whatever means.

1.3 Research questions

Keeping in mind the end goal to accomplish the reason for the investigation of setting up the reason and impacts of conflicts in Tana River County, the accompanying exploration questions were formulated.

1. What are the factors that have continued to cause conflict among pastoralists and agro pastoralists in Tana River County?

2. What is the impact of conflicts on economy, education, and health together with food security in Tana River County?

1.4: Objectives

1.4.1: General Objective

This study aims to comprehend the causes and consequences of the conflicts on the social and economic development of Tana River County.

1.4.2: Specific objectives

1. To establish factors that have continued to enhance conflicts
2. To assess the economic effects of the conflict at household level in Tana River County
3. To determine the impact of conflict on education and health service provision
4. To determine the impact of the conflicts on food security

1.5 Research Hypotheses

The following hypotheses were analyzed:

1. Competition for natural resources and politics are the major cause of conflicts among pastoralists and farmers in Tana River County.

2. Reduced social and economic development are the major negative effects of natural resource based conflicts in Tana River County.

1.6 Justifications

The constitution of Kenya 2010 has spelt out the rights and essentials opportunity which ought to be delighted in by all subjects as contained in the Bill of Rights Chapter 4. These rights can't be appreciated in a conflict circumstance, hence the need to understand the circumstances and end results of the conflict and to suggest relevant measures to mitigate them.

The study additionally is in line with the national policy on building peace and management of conflict, (GOK, 2011) in that the study established the causes and effects of the conflict. This is in line with the thrust of the policy which has an intention of forestalling conflicts through effective early warning system. The study will help in forestalling conflicts because the conflict causes and

consequences have been laid bare for any interested party to act. Tana River County has been chosen for the study because of the following reasons:

a) Intermittent conflicts which when studied gave answers to other conflicts in Kenya with similar backgrounds.

b) The area is remote and the available research reports are based on secondary data. This research used primary data as much as possible to get to the root cause of the conflict and the attendant effects.

c) Lack of scientific studies on the subject in Tana River County is another factor. Some available studies are brief reports from authors who have not arrived at their findings through universally accepted procedures. This study fully employed the universally recognized procedures to understand the causes of the conflict and came up with recommendations to avert future conflicts in the county and other conflicts in other areas with similar background setting, especially the north western, north eastern Kenya and the horn of Africa will benefit from this study.

1.7 Scope and limitation

This research work was carried out in Tana River country with special reference to the two livelihood zones in the county, namely pastoralists and agro-pastoralists. The conflict in Tana River County has links to the neighboring counties, but the study limited itself to issues within Tana River County. There are different resources which may cause conflict, but this study zeroed in on the water, land and pasture resources which has been the center of the human - human conflict in the area of study.

1.8 Operational Definition of Terms and Concepts

Agro-pastoralist - The form of farming that combines agriculture (growing crops) and pastoralism (rearing livestock).

Conflict- is a state of human interaction where there is disharmony or a perceived divergence of interests, needs or goals. There is a perception that interests cannot be achieved due to the other person. The existence of incongruent interest.

-Disagreements which may lead to fight between different people or communities over something of common interest e.g. land, water or minerals etc.

Fisher folk- people who fish for a living.

Food security – (FAO, 2009) food security is a situation when all individuals, constantly, have physical, social and financial access to adequate, protected and nutritious sustenance to meet their dietary needs and nourishment preferences for a dynamic and sound life.

Pastoralism- The symbolic relationship between local ecology, domesticated livestock and people in resources scarce and highly variable regions, often at the threshold of human survival.

Resource-supply from which a benefit is produced

Small arms-versatile guns, particularly rifles, guns and light automatic weapons

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Introduction

This section will be discussed as follows: literature concerning pastoralism, conflicts, Natural resource governance and food security with specific reference to Tana River. Key terms have been defined as they relate to the subject matter.

The chapter covered in a detailed study on pastoralism in Kenya and the attendant conflicts. Major stakeholders in Tana River were analyzed to elucidate their roles in the conflicts and conflict resolution.

2.2 Basics of Natural Resource Conflicts

Natural resource conflicts have arisen as important matters challenging local, regional, national and global security. Natural resource crises and problems in the world are widespread and increasing rapidly. In relation to these concerns, the following topics: people and the environment, natural resource conflicts, climate change and natural resource conflicts, and management implications are discussed in the ensuing sections (Bronkhorst & Bob, 2010)

The link between the natural resources and conflicts is varied and complex. The causes of natural resource conflicts vary across the globe and their manifestations differ considerably. The resources in question include fossil fuels to natural resources at the community and household level. Conflicts can manifest in various ways, from outright wars and even genocide to disagreements at the local level. It depends on the activities of actors, relative to the incompatibilities in their perceptions. Conflict is composed of three parts , incompatibility, action and actors and therefore

a complete definition of conflict is a social situation in which a minimum of two actors strive to acquire at the same time in time and available set of scarce resources, (Wallensteen,2007: 15).The African Center for the Constructive Resolution of Disputes, (ACCORD, 2002: 4) also argues in a similar vein that conflict is a state of human interaction where there is disharmony or a perceived divergence of interests, needs or goals. There is a perception that interests cannot be achieved due to the other person.

Conflict is understood as a comparison between social groups with clashing interests and incompatible goals. Societal conflict is a universal phenomenon, intrinsic to the process of social change. It is inevitable as long as material, social resources are unequally distributed within society, and inequity is reflected in cultural, social, and political relationships between groups. Security, identity, recognition, and development are basic human needs expressed collectively through membership in social groups. (Ciro & Susanne, 2002)

It may include several impacts which may include physical harm to both humans and the natural resource base. Natural resource change and conflict affect livelihoods and health, and exacerbate poverty and inequality, with women often carrying a disproportionate burden. The focus on environment and conflict alludes to the myriad influences that human beings exert over the earth's natural resource base and processes and to the way in which natural events, processes and even natural resource protection can affect human life. There is also a growing consensus in both the academic and political spheres that are exerting increasing control over the natural environment. Furthermore, the phenomenon of privatizing nature in its many forms (especially land ownership) is prevalent. Humans have been continuing to compete for the natural environment, while it is being used as a sink for the effects of global economic growth. However, what is becoming clear

is the natural environment can fight back. Natural hazards like droughts and floods, global warming with resultant effects on the lives of the people. There is a nexus between natural resource considerations and increased conflict on the African continent. In particular, while remaining a neglected field of research.

2.3 Environment and people

(Daily,1999), cited in (Le Maître et al., 2007: 369) identifies a range of ecosystems services provided by nature, which include: Stabilizing and regulatory processes: purification and maintenance of the gas composition of the air, regulation of the hydrological cycle, partial stabilization of climate, moderation of weather extremes, and control of the majority of potential pest species, regeneration processes: generation and renewal of soil fertility, purification of water as well as the detoxification and decomposition of wastes, pollination and dispersal of seeds / spores necessary for re-vegetation. Production of goods: food, durable materials and industrial products, genetic resources and pharmaceuticals and Life-fulfilling functions: aesthetic beauty, serenity, scientific discovery and preservation of options for the future.

This range of ecosystem services shows how critically important these processes are to the functioning of the Earth's systems and to human survival, livelihoods and lifestyles, and vice versa. Nature as a resource therefore provides, either directly or indirectly, material needs for food production, living space, health maintenance (including provision of medicines) and supply of energy and livelihood materials, (Bob et al.,2008: 17).

There is widespread recognition and acceptance that the Earth's resources are finite and that they operate in the context of a single yet complex and interrelated system. (Steffen et al.2004: 2) state:

The environment at the scale of the earth as a whole, the passing of the seasons, the vagaries of weather and climate, the ebbing and flowing of river systems and glaciers, the rich diversity of life in all its forms has been something within which People have had to operate, subject only to great forces of nature and the occasional disturbances of extraterrestrial origin. Earth's environment has been a bountiful source of resources as well as a remarkably stable life support system that has allowed human civilizations to develop and flourish.

There is therefore an intricate and inextricable relationship between Homo sapiens and the development of societies. Over time, the control humans have over the environment has increased considerably and today people are the main custodians and consumers of the natural environment. In fact, largely due to the sheer size of the global population and our activities, a dramatic transformation of the Earth's environment and natural systems (global change) is clear, demonstrating that the abundance of nature and its ability to adapt to and absorb human waste are under serious pressure(Ibid). Economic activity, for example, has increased nearly tenfold between 1950 and 2000, ibid. During the same period, the world's population doubled from less than 3 billion to 6 billion, and currently to 7.7 billion in 2018. The world's population now is more tightly connected than ever before because of the globalization of economies and information flows, ibid. (Ahmed, 2010) highlights the importance of population growth in contributing to natural resource conflicts and degradation in coastal zones. (Moodley et al.2010) explore the linkages between the Rwandan genocide, high population growth and density, the struggle over land, and how to resource such a land can be manipulated to incite people to violence. These cases show that to meet the United Nations' sustainable development Goals by 2030 without using the massive resource subsidy from nature in ways that may prove environmentally catastrophic, individuals,

communities and countries are required to design poverty reduction strategies that are consistent with resource conservation objectives (Barrett et al., 2005: 193).

Human-induced natural resource conditions including rain patterns, natural hazards such as earthquakes and tsunamis, slopes and terrain, availability of water resources, and quality of land can also be a critical source of vulnerability and insecurity for people. Some of these conditions such as climatic conditions and natural hazards can strain household and community coping strategies. Poor communities in particular are at risk because they are exposed more frequently to such shocks and they do not usually have the necessary infrastructure and resources to cope with them. The importance of coping and adaptation capabilities is highlighted by (Reuveny,2007: 661): 'The key issue is not how strong a disaster is per se, but rather how strong it is relative to the ability of people to withstand it.

Access to natural resources and assets is also vital to achieve livelihood security, especially in poor communities and households that often rely directly on natural assets to ensure daily survival and livelihoods. However, livelihood activities can often destroy the natural resource base by over-use and degradation, which can contribute to desertification, deforestation, soil erosion, declining water tables and other types of natural resource damage that in turn affect livelihoods. Often, in vulnerable contexts where resources are limited, the lack of alternatives results in increased natural resource degradation which leads to higher levels of poverty and risk, partly causing what is generally called the poverty trap. The role that Vulnerability plays in conflicts is emphasized by a number of the authors. For example, (Perry et al.2010) examine how vulnerable women in particular are often disproportionately affected by natural resource change and natural resource conflicts due to gendered power relations, especially in terms of control and access to resources

such as land. (Jaggernath, 2010) examines how economic growth and industrial development, natural resource racialism and air pollution can lead to conflicts, when poor and marginalized racial groups suffer from the natural resource and health consequences of development. In light of such interactions between the environment, people and conflicts, it is therefore important to understand how ecosystems function and respond to changes, both natural and human-induced. As (Ashton et al., 2005: 449) state, 'ecological processes are important from a human-needs perspective, for the goods and services they provide. (Okech,2010) addresses one element of such control, that of natural resource conservation, where biodiversity is protected, often by excluding people from making use of certain natural resource goods and services in a particular region. (Bob, 2010) also highlights the dilemma between conservation and restitution claims under land reform in Sub-Saharan Africa, where people were once forcefully relocated to free areas for conservation. Because of the complex nature of and delays in dealing with such land claims, some conservation areas have been illegally occupied (Bob, 2010), which is likely to lead to natural resource degradation and fueling of conflicts.

2.4 Natural resource conflicts

Several authors including (Castro and Nielson, 2003); (Yasmi et al, 2006) argue that conflict emerges when stakeholders have irreconcilable differences or incompatible interests, values, power, perceptions and goals. Furthermore, if unresolved or not managed, conflicts are likely to escalate and intensify. (White et al., 2009: 244) state: 'What distinguishes conflicts from mere disagreement is thus a behavioral expression of formerly latent attitudes where one party is perceived to take action at the expense of another party's interests. Some examples of expressions of conflict are threats, beating, appropriation, insurgency, skirmishes, and Interstate or Intrastate

Wars (Reuveny, 2007: 656). Competitions for finite natural resources, divergent attitudes and beliefs as well as institutional factors trigger and exacerbate such natural resource conflicts (Hellström, 2001). The issue of scarcity, whether perceived or actual, is a critical component of understanding natural resource conflicts. Broadly, scarcity conflicts characterize most natural resource controversies and disputes. Numerous types of natural resource conflicts are identified in the literature and include:

2.5 Biodiversity related conflicts

This is the subject of Conflicts between people about wildlife or other aspects of biodiversity. (White et al, 2009: 242). This includes conflicts related to the conservation of protected areas, green technologies as well as fair trade and patenting rights in relation to biodiversity and indigenous knowledge linked to natural resources. These conflicts can occur internationally and have serious regulatory and policy implications. Impacts on the natural resource base in terms of land clearance for development and agricultural production as well as the effects of genetically modified crops on biodiversity are important considerations as well. There is evidence to suggest that if conservation and natural resource management policies are not formulated and implemented in a holistic way to balance the needs and interests of conservation and people, it can lead to conflict. (Okech, 2010) finds that in Kenya the natural resource protection and management can create situations where 'people become the victims of animals' and then retaliate by killing animals for bush meat or to protect their crops or cattle from disease and Predators. Linked to biodiversity conflicts are natural resource management (NRM) conflicts. (Yasmi et al. 2006: 538) highlight that conflicts, many of which include violence, in NRM are on the rise and are complex because of multiple actors and the wide range of issues and management strategies. However, what is

important to underscore is that conflicts over natural resources can result in violent conflicts and this can transcend Nation-state boundaries.

2.7 Conflicts at the Coastal zone

Conflicts in coastal zones are interesting in that they could develop from a combination of other types of conflicts. (Ahmed, 2010) considers such conflicts in particular and Highlights that coastal area are unique in the Dynamics they produce around natural resource conflicts. This has to do with high development demands, high population density, natural resource degradation and importantly poor and disjointed management to balance conservation and development. The author highlights two types of coastal zone conflicts, those related to ecosystem change and those related to coastal development.

2.8 Air quality and noxious pollutants related Conflicts

This is a key type of natural resource conflict prominent in the literature and which relates to social justice and the right to live in a healthy environment. (Mix and Shriver, 2007) focus on local Resident Perceptions and concerns. It is important to note that their study highlighted divergent Perceptions over natural resource threats, which are important in terms of managing these conflicts. Furthermore, an important theme is the natural resource racism and the links between poverty and Vulnerability. While most conflicts relate to demonstrations and legal disputes as local residents and natural resource activists mobilize communities to assert their rights, there are also incidences of violent conflicts. Natural resource conflicts associated with air quality issues, such as the Southern Durban Basin (SDB) in South Africa, often also receive considerable media attention. Other key types of conflicts include land and water conflicts, which are discussed in the following paragraphs.

2.9 Land based conflicts

Worldwide, a significant proportion of people are dependent on land to make a living but this is more prevalent especially in Africa. As noted by (Kok et al., 2009: 42): The importance of land in conflicts relates to people's ability to make a living or make a profit. Land scarcity or ambiguous property rights can contribute to grievances and violent conflict. This is especially the case when alternative livelihoods are absent, and is often exacerbated when communities are armed. In addition, when land contains valuable Mineral resources, conflicts may arise between local communities and those who seek control over land for resource extraction. The population growth and movement, international markets, insecure property rights and legislation, climate change, natural resource degradation and many other factors appear to be variables that need to be tracked in analyzing conflicts where land plays a role. Finally, desertification, unsustainable use or drought can bring communities with competing livelihoods into further conflict.

(Bob, 2010) considers land conflicts in Sub-Saharan Africa, he draws attention to the many reasons and complex interplay of issues that can lead to conflict, such as the role of power in securing land tenure and the way poverty and inequality often limit access to land. Land can also be used as a tool for Manipulation by those with power. (Moodley et al., 2010) emphasizes the key role that land played in the Rwandan genocide. Land was not the primary reason for genocide, but became a tool where ordinary citizens, whose livelihoods were increasingly vulnerable because of shrinking sizes of land, were incited to kill and take their neighbours land and belongings. The authors also highlight the vicious feedback circles where the genocide led to natural resource degradation and deforestation, in turn creating tensions.

2.10 Water related conflicts

(Clare, 2001: 57, cited in (Gleditsch et al., 2006: 362) states that by 2050 the increased demand for water could produce 'intense competition for this essential substance in all but a few well-watered areas of the planet'. Countries that share Rivers therefore have a higher risk of military controversies or water wars, (Gleditsch et al., 2006: 361). Furthermore, several countries rely on water sources outside their boundaries. Local and international competition over water resources will increase. This is likely to have impacts on national security as well as threaten livelihoods at the local level. The water itself is not only a source of conflict, but the resources in the water bodies, especially fish, is also points of contestation. This is particularly relevant in contexts where communities or countries share boundaries. The problems are likely to be worse in contexts where boundaries are not clear and there are competing claims for resources. (Onuoha ,2008: 35) illustrates how natural resource degradation and in particular diminishing water resources in Lake Chad has created conflicts and undermined livelihood sustaining activities in Cameroon, Chad, Niger and Nigeria. The study specifically highlights conflicts between and among fishermen, pastoralists, farmers and in some cases state security agents. Furthermore, (Onuoha, 2008: 35) underscores the implications of conflicts that often degenerate into large-scale intra-ethnic, intra-state and inter-state conflicts.

Water conflicts are also directly linked to food security and the provision of fresh water. Water is a crucial resource for agricultural productivity and controversies over water rights and access can undermine agricultural productivity levels. Furthermore, water degradation and conflicts are also linked to the Migration of Biodiversity, including people. For example, the migration of people in search of better sources of water is a widespread phenomenon in Africa. In the Northeast of

Tanzania, the Pangani River Basin, migration has led to the convergence of pastoralists and farmers and to rapid population growth of both human beings and livestock, (Mbonile, 2005: 41). Intensive water conflicts were also caused, in which different irrigation systems, both traditional and modern large-scale types and uses of water for hydropower generation also played roles.

Natural resource migration is a result of development. (Reuveny, 2007:662).Jaggernath (2010) found out that close to 78% of residents in relocate if they received compensation and could move closer to their work. (Omolo ,2010) highlights that women from pastoral communities are often forced to move to cities during times of natural resource stress and that some have turned to prostitution for survival. Climate change has been shown to intensify natural resource conflicts and is inducing new forms of natural resource conflicts

2.11 Natural resource conflicts and Climate change

It is now widely recognized that climate change is having and will have significant impacts on social, economic and ecological systems and processes as socio-economic inequalities widen locally as well as globally, Intergovernmental Panel on Climate Change, (IPCC, 2007). (Thomas and Twyman, 2005: 122) state that an examination of climate change needs to include the relationship between global processes, national responses and local outcomes, and especially the effects of national decisions and policies on local opportunities and abilities to adapt. Thus, aspects relevant to natural resource conflicts are important to consider. (Steffen et al. 2004: 16) identify a range of direct drivers of climate change and underlying fundamental needs and desires of individuals and groups affecting the natural environment and intensifying climate change. The direct drivers of human activities associated with climate change include land-clearing and land cover conversion, the introduction of alien species, agricultural practices, fossil fuel and biomass

burning, and poor water use and management practices groundwater removal. The underlying human-induced drivers include a growing demand for a wide range of goods and services, including basic needs (food, water, clothing, shelter, health and employment), transport, recreation and leisure activities, safety and security, and entertainment luxury items.

The impacts of climate change on socio-political systems are not new. For example, the El Nino events and famines of the 19th century, triggered by droughts, resulted in political and economic colonization that deprived local people of their entitlements to natural resources, (Davis, 2001, cited in (Barnett and Adger, 2007: 641). (Barnett and Adger, 2007: 642) further argue that it is important to consider how violent conflict is itself a powerful cause of human insecurity and vulnerability to climate change. (Thomas and Twyman, 2005: 115) identify the implications of climate change for equity and justice among vulnerable groups at local and sub-national levels. Equity and justice, they assert, are important to consider, because the worst and most vulnerable groups, mainly in developing countries where high resource dependency is high will disproportionately experience the negative effects of climate change.

Climate change is increasingly being seen as a security problem because there is concern that climate change may increase the risk of violent conflict, (Barnett and Adger, 2007: 639). The underlying proposition is that climate change is likely to undermine human security by reducing the natural resource base and limiting access to existing natural resources which are central to sustainable livelihoods, especially in developing contexts as indicated earlier. In specific contexts, direct and indirect impacts of climate change on human security may increase the risk of violent conflict, (Barnett & Adger, 2007: 639). (Nordí and Gleditsch, 2007: 627) state that conflict-inducing effects of climate change have emerged in the literature and although several causal

chains and paths to these conflicts have been suggested, there is a gap in terms of providing substantial evidence for these claims.

This point is mirrored in (Omolo's, 2010) empirical study. In light of increased droughts in the area, and given that livestock forms the foundation for food security in Kenya, competition over grazing land and water has increased, leading to violence. While the author reports that people have adopted a number of coping strategies to deal with Climatic variability, such as diversification into agriculture, Vulnerability is intensified because of a rise in militarized cattle raiding, attributed in part to economic decline in the Horn of Africa. Furthermore, (Reuveny, 2*0*07: 656) illustrates that climate change-induced migration, which is likely to be more frequent given the increase in extreme weather events, can create and intensify violent conflicts. This will be particularly acute in lesser developed countries where, due to limited options to adapt to or mitigate climate change, people are more likely to leave affected areas. The Christian Aid Charity cited in (Nordis and Gleditsch, 2007: 629) Warns that '184 million people could die in Africa alone as a result of climate change by the end of the 21st century' and that 'at least one billion people will be forced from home as the effects of climate deepen an already burgeoning global migration crisis.

2.12 Managing natural resource conflicts

Natural resource related conflicts are linked to political, economic, social and ecological contexts. Very few studies or implementers adopt an integrated and interdisciplinary approach. Rather, one aspect is focused on a fragmented manner and the others are neglected. However, it is important to emphasize that a focus on 'conflict' underscores the social and political aspects. The power dynamics and social components are crucial. Not all-natural resource conflicts have negative impacts, however. Conflicts can be important focal points to highlight social, economic and natural

resource problems. For example, from an ecological perspective, conflicts can draw attention to natural resource problems and result in conservation efforts. (White et al., 2009: 243) state that conflict management is necessary to reduce negative impacts and promote positive effects. Conflict prevention refers more to processes or interventions that inhibit social conflict from taking on a violent form, rather than eliminating all disputes and conflicts of interest in a society. Conflict management refers to actions to avoid spillover potential to other regions or neighboring countries. The type of action can range from force to humanitarian assistance to mediation.

Conflict resolution has two different meanings. One refers to immediate action taken to bring a halt to violence and involves mediation, negotiation, facilitation, conciliation, leading to disarmament and demobilization of fighters. A cease-fire or other way of ending open violent conflict is an essential but not the only element. The second refers to long-term action designed to remove structural causes of conflict, to transform relationships, change attitudes, and bring about lasting peace. Outcomes of the resolution process should put in place mechanisms to avoid or manage future outbreaks of violent conflict. Such outcomes can emerge through a variety of processes, either formal or informal agreements, ad hoc arrangements, an eventual war-weariness, or outright defeat or victory. (Ciro & Susanne, 2002)

While planning is a prerequisite for effective management and implementation in any context, it remains an ideal rather than a reality (Paterson, 2007: 4). (Ahmed, 2008: 45) reveals that although the natural resource concerns and agendas are increasing and management is being advocated by the governments worldwide, current approaches are still regional, sectoral and unsustainable despite the proliferation of international policies and treaties. It is also noted that inappropriate land use planning and ineffective policy implementation are making the situation worse and

contributing to unplanned interventions. This has devastating impacts on the biophysical environment and the long-term sustainability of the environment. Additionally, the impacts on people, especially the poor and vulnerable, can be dire. Environmental Impact Assessments, Social Impact Assessments and Strategic Environmental Assessments remain important legal and procedural tools to manage the environment, especially with regard to current and intended development. However, the implementation of these tools requires consideration for a range of factors and resources which may not be available in the developing countries where conflicts are prevalent.

2.13 Conflicts in Africa

Since the end of the cold war in 1989, uncountable number of people has been killed in internal and regionalized forms of conflict. It is estimated that a third of the population of the world bears the burden of armed conflict, (Goodland, 2001)

While violent conflict is not confined only to the global South, the proportion of conflicts that take place in natural resource rich, poor countries with poor leadership and governance structure and the continent of Africa bear more than half of these scenarios. These conflicts are not momentarily in nature, they are systemic and enduring in features. Evidently, natural resources and its management have played fundamental role in the conflicts and poverty that have plagued many of the Africa countries over the last decade. Natural resources are increasingly linked to conflicts as they have become a source of civil wars financing, for example, oil resource, whose association with conflict and poverty has generated much statistical significance and interest in Africa, due to its high level of profitability, the ecological consequences of its exploitation, the global politics involved and its role in the ethno-political and socio-economic affairs of the countries endowed.

The international communities and indeed, African have observed that poor leadership and governance ruined the significant part of Africa nation's history since independence from colonial rule. This practice in recent years has changed, but the effect of good leadership and governance practices is still a mirage, as seen in the transition of power in some Africa nations like Egypt, Tunisia, Ghana, Nigeria and South Africa, (Goodland, 2001)

Political and economic reforms have arguably taken root, while this is a new ray of hope; there is need for transparency and great accountability to parliaments and the public for the impact to trickle down and take root further and faster. Indeed, there are many negative forces that have impeded, and continue to threaten, the integral development of the peoples and nations of Africa. It is worthy to recognize the ongoing and very vital endeavors for sovereignty by African peoples, based on the great human potential and rich natural resources. (Omuruyi, 2012)

In 2009, President Obama stated in Ghana that "Africa does not need strong men, Africa needs strong institutions" no doubt, institutional weaknesses and capacity constraints continue to limit the improvement in economic development, security and democratic governance, and by extension limit the overall well-being of the peoples of Africa. More than ever before African leaders are knowledgeable from their own experiences that strong institutions, peace and security, democratic governance, human rights and the rule of law are vital condition for investment, especially foreign direct investment (FDI), which will trickle down to sound economic development and wealth creation for the poor. This is evident in the pledge being made to work, both individually and collectively, towards promoting these principles in the countries of the continent. Africa is the richest continent in natural resources, compared to the rest of the world, but the people are the poorest and stagnant in development (Ahmed, 2014).

Africa is home to the majority of the world's poorest countries today exemplified by Somalia and Congo, (Human Development Report, 2013). Even though poverty in Africa has been shown in recent years to be declining, income levels in Africa have been falling compared to the rest of the world. The effect is that of Africa, and in the northern region now especially affecting Somalia, Sudan and South Sudan, the situation is even worse (Ahmed, 2014).

Internal conflicts in resource-rich countries is a major cause of human rights violations around the world and availability of portable, high-value resources is an important reason behind the formation of rebel groups and the outbreak of civil wars, conflict, poverty, instability and poor leadership in all ramifications. Africa is poor (Ikejiaku, 2009) citing (Oputa, 1994) implying the natural resource-rich environment has little or no impact on the wellbeing of the people, whereas the continent of Africa exceeds in its size and natural resources the combined territories of China, Europe, and the United States, yet most Africans live in poverty and must struggle to barely survive, (Seidman et al, 2006). Revenues from the use of natural resources are not only used for sustaining armies but also for personal enrichment and building political support.

They have become obstacles to peace as leaders of armed groups involved in exploitation is still in the hands of small elite and is not used to broader development of the country. It is clear that where there is conflict, the society is seriously affected, due to retarded developmental gains, leading to poverty, (Wanyande, 1997), for instance, between 1998 and 2002, Democratic Republic of Congo recorded over four million deaths from the civil war of the Commission for Africa (RCA, 2005). When conflict occurs, natural resources are targeted and unavoidably amassed for the procurement of arms and ammunitions at the expense of socio-economic development. It is true that many people are responsible for conflicts and poverty, and

there are claims that conflicts in Africa are mainly a result of natural resource struggle and poor leadership. Majority of conflicts in African continent arise as a result of combined poverty and weak governments bedeviling most of them, together with weak institutions (Gurr et al, 2001).

2.14 Endowment of Natural Resource and Curse

2.14.1 Resource Endowments

Resource endowment is defined as a possession of mineral deposits, such as oil, gas, iron ore, lime stone, gold and diamond in a country (Alexeev et al, 2009), states that many rich countries like Canada, Australia, Norway, the United States, and Latin America are resource endowed with strong institutions in place. Moreover, there can be positive relationship between natural resource endowment and economic development. Furthermore, (Glyfason, 2001) reveals that the resources of Chile and Mauritius are developed. Botswana's success story was due to its democratic approach to governance and rule of law. The leadership in Botswana designed and fostered good governance, property rights and sound economic policies. On the other hand, (Auty et al, 1997, 2001) suggested that the economic growth of the resource rich countries in the long run are worse off than that of the endowments. This is a Resource curse phenomenon where the economic, political and legal institutions fail to harness the revenues accrued to the country which translate into stagnation, conflict and waste. (Sachs et al, 1995) established that regression reports carried out for resource endowed countries had low economic development (Corden et al,1982) examines Dutch disease as the extra wealth of natural resources and the ensured contraction of the export sector. Dutch exchange rates, real exchange which is pushing up domestic product. It equally results in resource shifts of capital and labor from the production of non-traded goods to resource sectors. However, (Mushed, 2004) describes the Dutch disease as the availability of natural resources such as oil and

minerals tend to dominate the economy and revenue patterns. The economy practically becomes a monopolist economy. Rent-seeking theory postulates that political effects propose a stabilizing effect on dictatorship rule. (Hazen et al, 1987) describes rent seeking as state in which at least forty percent of the total revenue consists of economic rents. Rent seeking can be viewed from the central effects of dependence on economic rents. These are the economic inefficiencies and obstruction of socio-economic development (Beck, 2007).

2.14.2: Politico-Legal Institutions

The importance of political and legal institutions in the effective management of natural resources endowments for economic growth and development cannot be over emphasized. According to (North, 1990), developing countries are poor because of the political and economic activity that does not encourage productive activity. If political institutions and the rule of law are in place to safeguard property rights, large resource endowments can lead to positive development. Political and legal institutions play a vital role through good governance. Moreover, if large resources are managed, developing countries can easily catch up with the developed countries. (Kaufmann et al, 2000, postulates that, economic developments can be seen as the governance of the traditions and institutions. He further identified good governance as a pre-requisite for sustainable development. Through this, (Kaufmann et al, 2000) argues that, this will ensure equitable distribution of resources which can reduce inequality. Institutions and good governance are the bedrock of a country's economic growth and development.

Good governance plays a role in the dynamics of market externalities for economic growth. As articulated by (Hyden et al 2014), that governance is the formation and stewardship of the formal and informal rules that regulates the public realm, the area in which the state as well as economic

and societal actors interacts to make decisions. Hyden further argues that, government decisions affect the day to day running of the economy. Economic growth and development can be attained with effective institutions. The legislators passing the right laws and bills that encourage entrepreneurship, foreign direct investment and property rights. The work of the judiciary is to ensure strict sanctions for public servants who are engaged in corruption and abuse of office. Effective political and legal institutions would lead to positive change in the informal society. Moreover, (North, 1990) explains that institutions play a fundamental role in societies as the underlying determinants of the long-run performance of economies. Large resource endowment is key to development and economic growth. Institution and governance was viewed by (Campos and Nugent ,1999) as key components of an efficient civil service, an accountable executive, the rule of law, an open and transparent policy making process, and participation of civil society in policy making, with positive effects of fast-growing economic growth.

2.14.3 Botswana's Success Story

Botswana has been described as a country blessed with a rich diamond deposit. (Sedudubudu et al, 2014) The Gross National Product (GNP) relies on non-renewable resources. However, Botswana has developed their economy and moved to a middle-income country. In buttressing the impact of good institution in large resource endowment (Lewin, 2010) establishes that Botswana's life expectancy has increased from 37 years at independence to 60 years by 1990. Reduction in infant mortality rate have fallen to about 45 per 1000 live births in 1990 as compared to 180 per 1000 for Africa. Development assistance has reduced to 3 percent of government budget. The establishment for property rights and the rule of law was reinforced by the continuing of Tswana tribal tradition of consultations known as Kgolta. By this the government saw the need to serve

the people and promote the development rather than serve the individual or an elite group for the purpose of enriching themselves. Botswana is a landlocked country with a population of over two million people. At independence the per capita income was $ 70 a year. However, with good governance and strong institutions per capita income rose to $ 6,100. Botswana is at par with Chile. Also, Botswana purchasing power parity at 2007 was $ 12,000.

Botswana has been able to mitigates the threat of resource curse, Dutch disease, volatility curse and exhaustibility challenge. On issues of governance, Botswana has practiced the parliamentary form of democracy since its independence. Democracy has been an important catalyst for its economic growth. Moreover, mineral wealth, political and legal institutions have been responsive to development needs, settlement of disputes and respect for the rule of law. Furthermore, (Lewin, 2010) also identified the importance of leadership by citing the contribution of their first president. Seretse Khama who ensured that minerals exploitation and the rights of the state is above communal land or tribe affiliations. In preventing Dutch disease, the government contributed positively by investing in public goods and infrastructure. They also help to boast productivity by limiting parastatals. The implementation of good policies to avoid import substitution effects on the Botswana's economy is another area which has led to the development of this country. In addition, they ensured that a surplus account of balance of payments is maintained and human capital development is continuous.

The economy of a country can be destabilized due to high mineral prices which distort non-traded sectors, (Hausman et al, 2005). The government established the Public Service debt management fund and the Revenue Stabilization Fund. These institutions are involved in saving funds, unlinking public expenditure from revenue, avoiding typical pro-cyclical behavior and real

exchange rate volatility. Botswana's economy has progressed astronomically due to the activities of ensuring that inflation is checked and occurrence should be at the minimum. Furthermore, Exhaustibility challenge, has been addressed because the mineral deposit in Botswana is predicted to be exhausted in the next 20-30 years through building infrastructure, investing in health sector and education. Economic diversification into tourism, industry and agriculture has been attempted with a view of strengthening these sectors. The economic institutions are equally gearing for a favorable atmosphere for foreign direct investment which can boost growth.

2.14.4 Resource Curse

Nigeria, Guinea Conakry, Sierra Leone and Liberia are examples of the paradox of plenty, (Collier, 2001), (le Billion, 2001). Nigeria for example is struggling to deliver basic social services to the people due to poor institutions and rule of law. These large resource endowed countries are characterized by poor economic growth, weak institutions, poverty and high inequality. Nigeria's over dependency on the oil sector has led to not only resource curse but Dutch disease. Many theories demonstrate that Nigeria is a prime example of resource curse (Mahler, 2010), (Auty, 1993): (Sachs & Warner, 2001). Nigeria has explored and produced Oil for fifty years without sustainable economic growth and development. The populace has dwelt in problems such as poverty, unemployment, low quality education and lack of basic infrastructure. In addition, (Sala et al, 2003), income distribution and inequality has increased in Nigeria despite the fact that it is a major crude oil exporter from 1970. The inability of political institutions in Nigeria to develop a strong and viable economic growth can be attributed to long military rule, aftermath of the civil war and corruption.

Furthermore, the (World Bank, 2014) examines that the Gross National Product of Nigeria in 2014 was $ 510 USD yet 70 per cent of the economy is surviving on $ 1.25 USD or less per day. The economy is ranked 26th largest in the world and at one time the OPEC chairman was the Nigerian Petroleum Minister. Equally it has been identified that the ninety percent of the Country's wealth and resources is controlled by ten percent of the population.

The major factor that contributed to resource curse in Nigeria is Dutch disease, rent-seeking activities, political upheavals, insecurity, constraints on power and corruption. The effects of Dutch diseases in Nigeria resulted in higher oil prices. This resulted in resource shift in human capital from the agriculture sector to the oil sector. It equally boosts consumption and output of non-trade goods in Nigeria's economy. This increases the consumption of oil related products as a result of exports which is exchanged with imported goods to stabilize the balance of trade and terms of trade. Resource curse in Nigeria is further attributable to the role of government in deemphasizing the importance of other sectors of the economy. A major feature of Dutch disease is the increase in national income which is attributed to natural resource revenues.

On Rent seeking, Nigerian has been plagued with various forms of government from military to democracy rule. Initially the oil producing States used a non-violent approach in their push for the distribution of oil rents to government and political autonomy. The formation of the Movement for the survival of the ogoni people (MOSOP) met a dead end with the military administration of the General Sani Abacha. (Ibeanu et al, 2001). Their leader Ken Saro Wiwa was killed together with other key members of the group, giving birth to an armed militant group called Niger delta militia. The rent-seeking activities of this militia group have been recorded with kidnapping, ethnic and communal clashes with burning of houses and blowing up of the oil pipelines.

On the political scene, the successive government in Nigeria has supported the accumulation of wealth through embezzlement of public funds for private use. The Nigerian legislators are the highest paid in the world with a monthly salary of $ 40,000USD monthly while the minimum wage is pegged at $ 90 US Dollars. Estimates are that the majority of Nigeria's population lives on less than $2.00 per day. In recent development, the World Bank published the names of past leaders who had stashed away Nigeria's public funds while 90 per cent of the population lives in poverty. The oil revenue was squandered for unproductive and fake projects assigned to the rich. Furthermore, the devaluation of Nigeria's currency took place in 1986 with Nigeria's debt to the World Bank. This gave rise to increased cost of living, poverty and elimination of the middle class (Bergstresser, 1993). Also, the budget allocation to health and education system was reduced. Inequality and poverty have increased with poor economic development.

This study has argued that large natural resources endowments can lead to positive development outcomes if properly managed but equally leads to the resource curse and low economic growth and underdevelopment if poorly managed as in the case with many sub-Saharan Africa countries. Another area of concern in the conflict in Africa is the fact that most of the inhabitants are pastoralists. Pastoralism and its role in conflicts will be examined in the next section.

2.15 **Pastoralism**

Pastoralism is the finely-horned symbiotic relationship between people, domesticated livestock and local rangelands in fragile and highly variable ecosystems, often existing at the threshold of human survival. Pastoral groups inhabit arid areas where soil, rainfall and temperature conditions constrain land use options. This means that groups have to move seasonally between regions with their herds in search of grazing opportunities and freshwater sources. To reduce risks and

maximize the productivity of variable and widely dispersed resources, (Nori et al, 2005) Pastoralism is the branch of agriculture concerned with the raising of livestock. It is animal husbandry: The care, tending and use of animals such as camels, goats, cattle, yaks, llamas, and sheep. "Pastoralism" generally has a mobile aspect, in which non-nomadic farmers grow crops and improve pastures for their livestock. Mobility allows pastoralists to adapt to the environment, which opens up the possibility for both fertile and infertile regions to support human existence. Important components of pastoralism include low population density, mobility, vitality, and intricate information systems. The system is transformed to fit the environment rather than adjusting the environment to support the food production system. Mobile pastoralists can often cover a radius of 100,000 kilometers. In savannas, pastoralists and their animals gather when rain water is abundant and the pasture is rich and then scatter during the dry season of the Savana (Moran, 2006)

Pastoralists often use their herds to affect their environment. Grazing herds on savannas can ensure the biodiversity of the savannas and prevent them from evolving into scrubland. Pastoralists may also use fire to make ecosystems more suitable for their food animals. For instance, the Turkana people of northwest Kenya use fire to prevent the invasion of the savanna by woody plant species. Biomass of the domesticated and wild animals was increased by a higher quality of grass (Adan and Pkalya 2005)

The precise interactions between the natural resource system, resource users and the larger geo-political system define pastoral livelihood strategies, vulnerability and capacity to adapt to change. Given the high reliance of pastoralists on a limited natural resource base, the result of shrinking

rangelands and rising demand and reshape power distribution and resource management mechanism (Gakuria, 2012)

Pastoral communities are people who keep livestock and are widely spread in Africa and other regions of the world. Their population account for 12 to 16 per cent in the world. In East Africa, we have the highest variety and numbers of pastoralist communities. Kenyan pastoralists live in close to three quarters of land while their occupancy in Ethiopia, Somalia, Sudan, Tanzania and Uganda is fifty percent. Within these states, the pastoral communities account for a minority of the population and the life they lead is completely different culturally, value system and even the languages they speak is quite unique, (Bonfiglioll & Watson's, 1992). These scenarios partly give reason as to why the points of view and livelihood requirements of the pastoral communities are rarely considered in state development plans.

The Arid and semi-arid areas in Kenya are of critical importance, but are usually seen as being of insignificant value because they produce low volumes in terms of crops. Arid and semiarid lands constitute close to two thirds of land mass in Kenya with total land area of 592,000 square kilometers. This category of land sustains close to a quarter of the states' total population and more than half of the state's livestock. Conservative estimates indicate that close to twelve per cent of Kenya's Gross Domestic Product (GDP) is contributed by the livestock sector, (Gakuria, 2012).

Pastoralism is a way of earning a living and it involve raising herds of animals, mostly in Arid and Semi-Arid Lands. This production systems rely on the access to water, Labour and pastures for sustenance and water is the main determinant. Crop production is severely constrained as a result of inadequacy of rainfall, so the inhabitants remain only with nomadism or pastoralism as the only

practical and perpetually sustainable livelihood. Pastoralism maximizes on the opportunity brought forth by presence of abundant water and pasture during the wet seasons. They also face serious losses during the low season, when the water and pasture resources are in short supply. They usually increase the number of animals during the favorable wet season in order to derive maximum benefit from the resources available and carry forward a good number of healthy livestock for provision of subsistence in times of drought, (Gakuria, 2012).

Pastoral livelihood is known for its flexibility system which has evolved over time and is recognized as the most efficient means of using the scarce water resources under ecological conditions that are considered marginal, with the prevailing technology and economic status. The utilization of natural resources within the pastoral livelihood is characteristically an attempt to spread risks and flexibility mechanisms, like movement, community ownership of land, and diversified large herd sizes, together with splitting and separation of herd. The idea of mixed stock is for risk management. It has been observed that the susceptibility of goats and sheep, also referred to as the small stock to diseases is greater relative to the large stock like cows and camels. They are a perfect buffer to the pastoralists in the provision of the much-needed cash because of their prolificacy and the ability to lactate even during the dry period of the year, (Umar ,1994).

It is a fact that during the dry spells cattle and sheep perform dismally in terms of survival relative to the camels and goats. The type of livestock owned by each family is a personal choice, and is dictated by the prevailing ecology, size of family and labour availability. The cardinal aim of Pastoralism is basically provision of subsistence in terms of provision of a constant supply of daily nourishment which can be meat, milk, and sometimes blood for the family. Pastoralism involves dealing in live animals, milk, hides and skins, and food products or for cash income to purchase

grains, pay for education, health care and other services. Production is usually organized within household units consisting of a male livestock-owner, his wife/wives, children and other dependents (Gakuria, 2012)

Livestock is among the most important possession and is the main element of a pastoralist social alignment, economic status and his religion. They believe that in the absence of livestock, one will be lost, because he will have lost his status in society, lost power and will not be able to support a family. The livestock forms a very important role in social life and ideals that assures guarantees one to survive individually and the society as a whole. To the pastoral community therefore, the animals they keep, both small and large are regarded as insurance because of their role in the provision of cultural links in terms of bride price, transfer of ownership from generation to generation and as objects for performing ritual. Therefore, the animals are perceived to provide subsistence and prestigious goods that bequeath an individual to start and maintain cultural ties within the borders of their community and even across to other friendly communities. Some scholars have noted that, the animals allow individuals to establish and achieve mystic, rational linkage with the supernatural. Further, the cultural transactions, which are not market driven using livestock give the pastoral community the ability to achieve food, nutrition security and cultural security, societal reproduction and risks reduction (Umar, 1994).

In general livestock are the providers of almost all the primary requirements of life hence the pastoral communities have evolved an exceptional affection with the animals to an extent that those observing from outside the community in question find it difficult to fathom. It is this special attachment to their livestock that make the pastoralists to protect them at whatever cost and in the process, they may antagonize other residents with their passion for their livestock.

Pastoralism is practiced in over 21 countries across the African continent. Many of the areas where pastoralism is practiced are affected by conflicts. The Sahel region and East Africa show sustained levels of inter pastoral violent conflicts with associated potential impacts on their livelihoods (Bevan, 2007)

Pastoralism is a major economic production strategy in which people raise herds of animals, mostly in arid and semi-arid lands (ASALS). ASALs cover about 80% of Kenya's land mass and support about a third of the country's human population and 70% of the national livestock herd. An estimated 13 million cattle, 25 million goats, 14.9 million sheep, 1.7 million donkeys and 2.9 million camels are found in Kenya's ASALs, (KNLBS, 2010). Pastoralism contributes approximately 12 % of the country's gross domestic product with the livestock sector providing an estimated 90% of all employment opportunities and more than 95 % of household income in ASALS, (Schilling et al, 2012). Conflict is described as a disagreement among groups or individuals characterized by antagonism and hostility. This is usually fueled by the opposition of one party to another, in an attempt to reach an objective different from that of the other party.

Conflicts are widely recognized as an important source of poverty and risk to pastoral communities in the Arid and Semi-Arid Lands (ASALS) areas. Most of these conflicts are resource based in nature and often between pastoralists and farmers (Gakuria, 2012). The conflict among the communities living in Tana River County is historical dating back to the 17th century, when they started settling along the Tana River from the different origins in Ethiopia and Somali (KHRC, 2012). (Adan and Pkalya ,2005) in their study found out that conflicts led to serious socioeconomic effects namely, loss of livestock, human deaths, displacement of people, effect on delivery of social services including closure of hospitals and schools, agricultural land left fallow, food

insecurity, and flight of pastoralists from high potential grazing lands leading to livestock losses due to starvation. Water makes or breaks relationships. The linkages between water scarcity, peace and development are exceptionally obvious in the countries of the Nile River Basin (Erick, 2011). This is also applicable to the case study because the Tana River is a source of water for the communities and hence sporadic skirmishes may be witnessed especially during drought.

2.16 Tana River County Natural Resource Conflict

The Tana River County exhibits most of the typical characteristics, of challenges and opportunities experienced in African dry land environments. Orma, Pokomo and Wardei people who depend on, agro pastoralism, pastoralism, and fishing for their daily livelihoods reside in Tana River County. The Pokomo are ethnic groups in Kenya. They are mainly agriculturalists and fresh water fishermen living along the Tana River in Tana River County

The Orma are an ethnic group found in eastern Kenya along the lower Tana River. They are semi-itinerant pastoralists identified with the Borana Oromo individuals of the north and they communicate in Oromo dialect. Tana River's extensive rangelands, coast and riverine areas can generate food, income and many vital and valuable ecosystem services such as water supply and carbon sequestration. Practically the services have been degraded as a result of poor rangeland investments and policies.

Weak land tenure is one of the key underlying factors that have impeded sustainable livelihoods and development in the area. Land is held in trust by the county government but it exercises strict control in the allocation and are unaccountable to local communities. The local communities are also not informed in terms of their rights and this makes the situation even worse (Okuro, 2015).

As a result, the common property regime which has been used traditionally to allow pastoralists to manage the land tenure leading to loss of dry-season grazing reserves, restricting livestock movements and land degradation has increased, with the result of undermined sustainability of the pastoral livelihood system.

A number of underlying drivers of poor resource governance are: Insecure natural resource tenure, Weak governance manifested in political marginalization and corruption, Lack of appreciation of communal governance and value of these systems and Governance vacuums whereby the State is strong enough to undermine institutions but not strong enough to replace their functions.

The conflict between these two communities and their different yet uncompromising lifestyles previously resulted in few casualties because the weapons of choice were traditional weapons such as clubs, spears, and bows. However, the increasing introduction of small arms and light weapons has caused the number of casualties to escalate and more property to be destroyed than in the past. The Orma communities belong to the larger Somali ethnic group and are believed to source their arms from their relatives in Garissa County, which border Tana River. (Monograph no. 95, January, 2004)

Tana River County has the characteristics of any other conflict prone area in the country: underdevelopment, poor infrastructure, poor communication and social amenities, and social marginalization. Communities are arming themselves because of the need to defend against perceived attacks. They feel that the government security machinery has not been able to effectively respond to violence. Isolation has led to increased demand for guns. (NHRC Report August, 2012) According to a stakeholders' meeting convened by the County Commissioner in

July 2002, it was pointed out that no concrete data existed on the scope and extent of small arms and light weapons in the district. There are some undisputed facts, however. The ethnic clashes in the then Tana River district started in 2000 and slowly picked up intensity to unprecedented levels from late 2001 to early 2013.

There were several reasons for the escalation and sustenance of the conflicts in the county. (KMYA Report August, 2012). A land adjudication programme was started in the county without first adequately consulting with the communities. This programme was summarily rejected by the pastoralist Orma ethnic community because they saw the adjudication as a conspiracy between the Pokomo agricultural communities and the government to deny them access to traditional grazing areas and water access routes known as 'Malkas (GIN,2012)

Access to guns from Somalia has increased the number of fatalities in local villages. Two groups, the cattle-herding Orma, and the Pokomo, who are farmers, have been at odds over scarce land and water resources. It was reported that over 100 lives was lost when fighting began in mid-2012. Mwalimu Mati, head of Mars Group Kenya, a media watchdog, urged the government to provide equitable resources to end the fighting. "Resource conflict will be with us for a long (time) because the government policies that promote timber harvesting have resulted in deforestation," said Mwalimu Mati, head of Mars Group Kenya, an online activist group.

Local political leaders have condemned the government in Nairobi for failing to intercede and disarm the fighters. "Why is it that for seven months there have been no arrests, no people charged, no people taken before the law?" asked Danson Mungatana, a former member of parliament. In one of the conflicts, bodies of eight policemen were taken to Witu and Malindi hospital

mortuaries. Red Cross officials confirmed the figures of the dead. Said Ali, a Mombasa-based teacher, whose village in the Tana River region was attacked and burned, said the use of guns made the clashes much deadlier. “There are usually tribal clashes between farmers and pastoralists—it’s normal,” Mr. Ali said. “But the way it has escalated, with firearms and the deployment of security forces – that has made us suspect it is political.” (KMYA Report August, 2012).

2.16.1 Inadequate Land Tenure Policies

Tana River County is one of the forty-seven counties in Kenya. The county has a population of about 180.000 people with the Pokomo (Bantu/farmers), Orma and Wardei (Cushitic/pastoralists) being the dominant ethnic groups in the county. The name of the county is derived from river Tana, the largest river in Kenya, which traverses the northern and eastern part of the county down to the Indian Ocean where it enters the sea at Kipini with a delta of approximately 40 km wide. River Tana is an important ecological and natural resource in the county. Both the pastoralists and farming communities in the county derive their livelihoods from this river. Rainfall in the county is low bimodal and erratic, the mean ranges between 300mm and 500mm, (Tana River District Development Plan, 2005).

With the rains being erratic especially in the hinterland, the county experiences drought almost every year. The coastline is wetter than the hinterland. The coastal region receives up to 1200mm of rain annually although it varies and is highly unreliable. The higher rainfall at the coast support cash crops while the dry climate in the hinterland only supports nomadic pastoralism. Generally, therefore the county is dry in most of the seasons with temperatures averaging 30 degrees centigrade. (Short Rains Assessment Report, 2007). In the 1980s, there were three major irrigation

schemes in the district, which greatly influenced the local people's lifestyle in terms of employment and source of income. There were no conflicts during those days since people were busy on the schemes. However, since the collapse of these schemes located in Bura, Hola and Tana Delta irrigation projects, the poverty rate has alarmingly soared and became a major source of conflicts in the county.

The pastoral communities reverted back to their traditional method of nomadic pastoralism while the farmers started small scale subsistence farming along the Tana River from Mbalambala (Asako) in north, to Kipini on the Tana River estuary. The Nomadic pastoralists moved far into the hinterland with their large herds of animals while the Pokomos remained along the river. This created two distinct and competing lifestyle farming and pastoralism; (Practical Action-EA Peace Bulletin, 2004). Conflicts have flared whenever the pastoralists try to access the river to water their livestock for virtually all the riverbanks have been occupied by the farmers. This subsistence land use by the farmers has left no space for the pastoralists to access the water and this has been the main and leading cause of conflict, especially during the dry period when all the pastoralists have moved with their livestock to the Tana delta.

Whereas the farmers claim the land the pastoralists claim unfettered access to the water. These conflicts are therefore predictable and preventable if adequate conflicts resolution mechanisms are put in place. This scenario perhaps provides an express manifestation and understanding of conflict over natural resource (water); (GoK, 2010) Peace Bulletin. On the other hand, unresponsive land adjudication and regimes have bred conflicts in the county. Ostensibly to promote productive land use, the government implemented a controversial land adjudication programme in the county. Land was subdivided and allocated to individuals, mainly settled farmers as private property.

However, it became apparent that this process did not go down well with the pastoralists since they thought it would limit their movement and that's why they opposed and continue to oppose the policy. The farmers who felt that the adjudication would legalize their ownership of land embraced the adjudication, (Desta,et.al ,2004). On the Tana River Delta, Kenya including on the plight of the villagers who were forcibly evicted from Gamba village at the end of 2010 to make way for an unsuccessful food programme. Over 1000 people - Wardei pastoralists grazing their cows and goats were evicted and set up a camp in Walkon, 4.5 kilometers away from Gamba. Most of the children dropped out of school after the move because of the distance back to the school and the only water came from a drainage canal of the Government farm contaminated with chemicals until good Samaritans helped them to drill a borehole (The Star, September, 2012)

2.16.2 Pastoralists' Perception of Escalation of Conflict in Tana River

Anthropological studies of conflict in East African pastoral societies underline that usually such groups distinguish between different kinds of warfare and have specific words for referring to situations in which "normal" warfare is undergoing a process of escalation. Most normal raiding does not exclude cooperation at other levels. (Tornay, 1979), such increased levels of violence usually do. Escalation occurs when the rules of reciprocal raiding are violated: when great numbers of livestock are looted, casualties rise sharply, killing appears deliberate and cruel, and raids become too frequent, (spencer, 1973). As pointed out by tribal elder during a meeting concerning an increase of raiding in 1968, such escalation causes disruption to the pastoral routine, because the young men stop tending the cattle in order to go to war, and because cattle are forced to graze in restricted areas due to the danger of hostilities (Almagor, 1979).

(Almagor, 1979) points out 'that once a raid gets started there is no guarantee that the excited raiders will not commit excesses, which may escalate into large-scale retaliation' (1979: 127). Ultimately, escalation is prompted by one group's perception that the raiding practices of the other group have become "excessive", a fuzzy and subjective notion which may change according to a number of variables. Such increased raiding may result in a campaign which involves organized recruitment and strategic decision-making process. Inter-tribal co-operation ceases and daily social life and economic routines are disrupted (ibid.). Such escalation can be interrupted only when both parties feel that the balance of power has been re-established, that is when the peace process is not seen as a sign of weakness of one of the parties (Turton, 1993). However, excessive behavior in raiding does not necessarily lead to the escalation of hostilities into full scale warfare. Between the two moments there is usually room for dialogue. As long as the injured party receives compensation and is assured that the incident was an exception, scaling violence up into to a retaliation campaign will not take place (Almagor, 1979).

2.16.3 Insecurity, trade and food

When conflicts arise and become violent, the majority of those who go to fight are men from the clan, hired labour and family members. Participation of able-bodied men at conflicts implies that at least once every year, households are deprived of energetic people and their contribution to pastoralism. This is especially critical in taking livestock out to far away watering points. The result is that women and children are forced by circumstances to take up men's responsibilities, in addition to their normal workload. In this regard, women find themselves challenged to take livestock out to far- away places in search of water and other livestock resources, a big security threat to their lives (Almagor, 1979).

At the same time, women, children and elderly people are exposed to more insecurity, as there are no strong young men nearby to defend them in case of an attack. Insecurity confines them to homesteads, as they cannot carry out small-scale cultivation, or venture out to markets to engage in trade as an income generating activity. Insecurity and fear affect levels of food production at the household level due to a reduction in the quality and quantity of livestock. The livestock get stolen and there are no stable markets to rely on. Reduction in quality and quantity leads to hunger and increased poverty. Physical insecurity bars people from moving to marketplaces to buy and sell foodstuff and participate in other income generating commodities. Insecurity sparks a whole new cycle of poverty, limited water and conflicts (Ibid)

2.16.4 Insecurity and access to water

Farmers rely on water for agricultural activities. Pastoralism survives on frequent movements in response to availability of water. This demands that the migratory routes are safe. Water resource conflicts lead to physical insecurity, which in turn impacts negatively on access to grazing and watering points. Other people are forced by circumstances to move to drier but secure areas. Over-concentration of people and livestock in small areas will lead to eruption of more conflicts as people start to compete and fight over the limited water resources, creating more insecurity in the previously secure areas. Forced migration leads to more conflicts as those from warring parties can meet and revive old conflicts while in foreign land. The main reason is that since the fights are over water, watering points experience frequent fights, making the places insecure both for people and livestock. The result is sometimes damage to the borehole, which makes it inefficient, resulting in restrictions on the number of days when water can be accessed, and subsequently more and intense conflicts over water. The borehole is closed when fights break out (Turton, 1993).

Closure of the borehole means that people have to trek far in search of water, yet, such movement is constrained by the fact that able-bodied men, are the same ones involved in the fights. Families end up losing more livestock, a fact that will force them to steal from others if they are to meet their basic needs. Raiders have also learned to hide, attack and steal livestock at watering points. Most water-related conflicts start with individuals at watering points and spread upwards to households, villages and clans. At the clan level, the conflict is normally interpreted as one between clans, when the real cause is competition over access to water. Consequently, many people are drawn into or join conflicts that they don't fully understand. This results in a vicious cycle of more conflict and increasingly limited water resources (Ibid)

Many of the above issues were articulated by the residents in the various focus group discussions held during the research process. Another factor which may lead to conflicts is the land grabbing which has been witnessed in the study area.

2.17 Land Grabbing

Land grabbing is phenomenon that involves the large-scale acquisition of land for commercial or industrial purposes, such as agriculture and biofuel production, mining and logging concessions, big infrastructure development or tourism. There is a consensus that it involves acquiring more than 200 hectares, but others suggest a threshold of 1,000 hectares, many involving more than 10,000 hectares and several more than 500,000 hectares. It also involves the land acquired by investors rather than producers, very often foreign investors (TNI, 2013)

Land grabbing is also defined as land acquisitions that have displaced, dispossessed and disenfranchised; or, according to the Institute of Development Studies, it may also broadly refer

to the mass purchasing of agricultural lands by transnational companies (Scoones, 2009). Land grabbing is occurring on a scale and at a faster rate than ever known before (Food First, 2011). (Okuro, 2015). It has been established that the land grabbing has resulted in unequal power relations in the land acquisition deals and have the potential of putting the livelihoods of the poor at risk. Land grabbing forecloses vast stretches of lands and ecosystems for current and future use by peasants, indigenous peoples, fishing communities and nomads, thus seriously jeopardizing their rights to food and livelihood security. It captures whatever water resources exist on, below and around the lands, resulting in the de facto privatization of water. Proponents of land acquisitions list possible benefits for the rural poor, including the creation of a potentially significant number of farm and off-farm jobs, development of rural infrastructure, and improvements in anti-poverty measures such as the construction of schools and health facilities. Other positive effects may include global price stability and increased production of food crops that could supply local and national consumers in addition to overseas consumers. (Okuro, 2015) It has also emerged that the human rights violation is not intrinsic part the introduction of non-sustainable models of land use and agriculture that destroy natural environments and deplete natural resources, the blatant denial of information, and the prevention of meaningful local participation in political decisions that affect people's lives. Moreover, land given away to investors will result in less farming communities. It directs agriculture towards crops for export markets, increasing the vulnerability to price shocks of the target countries. Even where titling schemes seek to protect land users from eviction, land grabbing accelerates the development of a market for and rights with potentially destructive effects on livelihoods

Large-scale land deals lead to increased local food insecurity, because farm produce is exported instead of reaching the local market; and smallholder farmers have to buy foods as opposed to harvesting it on their lands (Food First, 2011). Sub-Saharan Africa is being specifically targeted for land grabs due to several factors. First, there is a perception that there is plenty of land available. According to FAO's 2008 figures, Africa is estimated to have in excess of 800 million hectares of cultivatable land of which only 197 million is currently being farmed. Secondly, the land is Relatively Cheap according to Susan Payne the CEO of the largest land fund in southern Africa, Emergent Asset Management pays between USD 350-500 per hectare in Zambia about a tenth of the price of Land in Unites States. Thirdly, Africa is endowed with rich natural resources including fertile soils, abundant water to support irrigation farming and favorable climate. Lastly, there is abundant and cheap labor (Makusa, 2010)

In Ethiopia, Ghana, Madagascar and Mali, it is estimated that two million hectares of land have been signed off to foreign interest. The distribution is 100,000 hectares irrigation in Mali and 450,000 hectares plantations for agro- fuel in Madagascar.

The government of Ethiopia has marked out 1.6 million hectares of land that can be extended to 2.7 million hectares, for investors willing to develop commercial farm (Nunow, 2011). If such acquisitions occur in places or countries with conflict, post-conflict and / or weak governance there is less monitoring and control and even greater negative impacts, (Mabikke ,2011). The situation in Kenya is almost fitting the description of Mabikke. Large-scale land deals lead to increased local food insecurity, because farm produce is exported instead of reaching the local market; and smallholder farmers have to buy foods as opposed to harvesting it on their lands (Food First, 2011).

There is a growing interest in growing crops for agro-fuels, particularly to supply European Union markets. Such crops include Sugar cane, Sweet Sorghum, Maize, Castor oil, Oil Palm, Jatropha and Cassava. It has been estimated that 21 per cent is earmarked for biofuels, 21 per cent to cash crops, with the rest distributed among conservation or game reserves, livestock and plantation forestry (Deininger, 2011: 223).

The disadvantage of the land grab is that it has devastating consequences. The new land deals have increased competition over land access and use between smallholder agricultural producers and the new corporates. This new and direct competition with local users for land, which formerly mainly sustained local livelihoods, has led several non-governmental organizations and media to label this as land grab

2.17.1 Land Grabbing in Kenya

Land grab is a new phenomenon, in Kenya it can be traced to the period of British colonialism. It resurfaced recently in 2004 when Dominion farms limited, a subsidiary of Dominion group of Companies based in the US, was leased about 2,300 hectares within the fertile River Yala Swamp, another example is the Tana Delta in Tana river county.

2.17.2 Tana Delta

The Tana River Delta in Kenya is one of the biggest and most huge waterfront delta biological communities in Eastern Africa. It comprises of an amazing assortment of fresh water, floodplain, estuarine and seaside zones with broad mangroves, intertidal zones and unblemished shorelines, forming a vast and exceptionally useful beach front biological system.

In 2008 the former president of Kenya, Mwai Kibaki announced that the government of Qatar would receive 40,000 hectares in the Tana River Delta in return for building a modern US $ 2.4 billion port in Lamu. The delta is one of Kenya's last wildernesses. One of the most important bird habitats in Africa is the flood plain of the river Tana, which flows 1,014 kilometers from Mount Kenya to the Indian Ocean (Scoones, 2009)

The Tana River Basin encompasses 126,028 km2 in the eastern part of Kenya, an area that is suffering from extreme drought. It supports a population of approximately 15 million people, with 10 million living within the basin. In the lower catchment, irrigated agriculture is practiced on the river's riparian land. Flood recession farming is practiced on the rivers flood plains. The Tana Delta is a key ecological resource. It is a source of fish for the local communities, a lifeline for the pastoralists during the dry season. It is also an important habitat for some endangered species of birds, monkeys and fish. The Tana Delta Qatar project is reported to push people off plots they have farmed for generations, hampering their access to water resources and raising the ethnic tension that many fears will be witnessed and the extinction of the rare and spectacular birds (Okuro, 2015)

Table 2.1: Large scale Land Leases in Tana River County

Purpose	**Investor**	**Land size in Hectares**
Oil seed farming	G4 industries	28,911
Biofuel farm	Bedford inc	360,000

Sugar plantation	Mat international	120,000
Sugar plantation	TARDA and Mumias sugar company	28,680
Fruit and vegetable farming	Government of Qatar	40,000
Total		577,591

Source: (Makutsa, 2010)

The current trend of large-scale agricultural investments in Kenya have resulted in an outcry of condemnation from the general public and concerted efforts by civil society organizations and farmers Producer organizations (Makutsa ,2010)

2.18 Research gaps

Some work has been done on political interferences and also on eastern and north eastern counties of Kenya like Turkana, West Pokot, Samburu, Laikipia, Marsabit, Wajir and Mandera. However, the studies on Tana River have dwelt on political and inter clan conflicts, (Gakuria, 2012) analyzed the natural resource basis of the conflict. In her study (Gakuria, 2012) used secondary data but my study, used both primary and secondary data. A reasonable amount of time was spent on the ground interviewing the key stakeholders in order to get first-hand information and to appreciate the prevailing circumstances which play a role in the continued conflict in this resource rich county

2.19 Theoretical Framework of Conflict

An agent-based theoretical approach is used to explore the relationship between the Orma and the Pokomo (Scheffran *et al*., 2012). The relationship can take two general forms: conflict or cooperation, Figure 2.1. Conflict in this study refers to violent conflict which is understood as the

forceful settlement of opposing views about pasture, water and livestock. It is a state of human interaction where there is disharmony or a perceived divergence of interests, needs or goals. There is a perception that interests cannot be achieved due to the other person. The existence of incongruent interest. It is also described as disagreements which may lead to fight between different people or communities over something of common interest e.g. land, water or minerals.

Cooperation on the other hand relates to the peaceful sharing of resources and a state in which differences are reconciled peacefully.

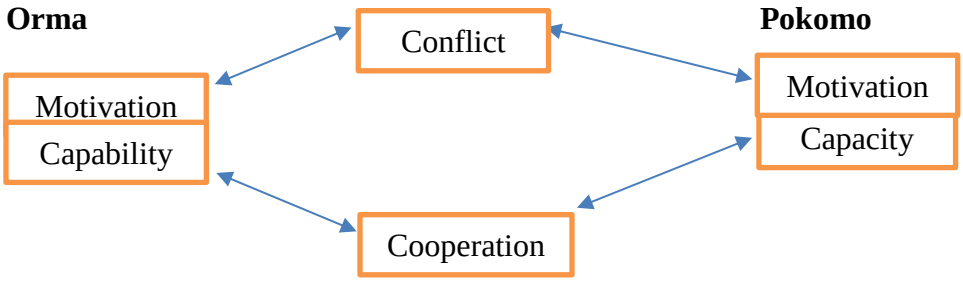


Figure 2.1: Theoretical framework for conflict

Source: Adopted and modified from (schilling, 2012)

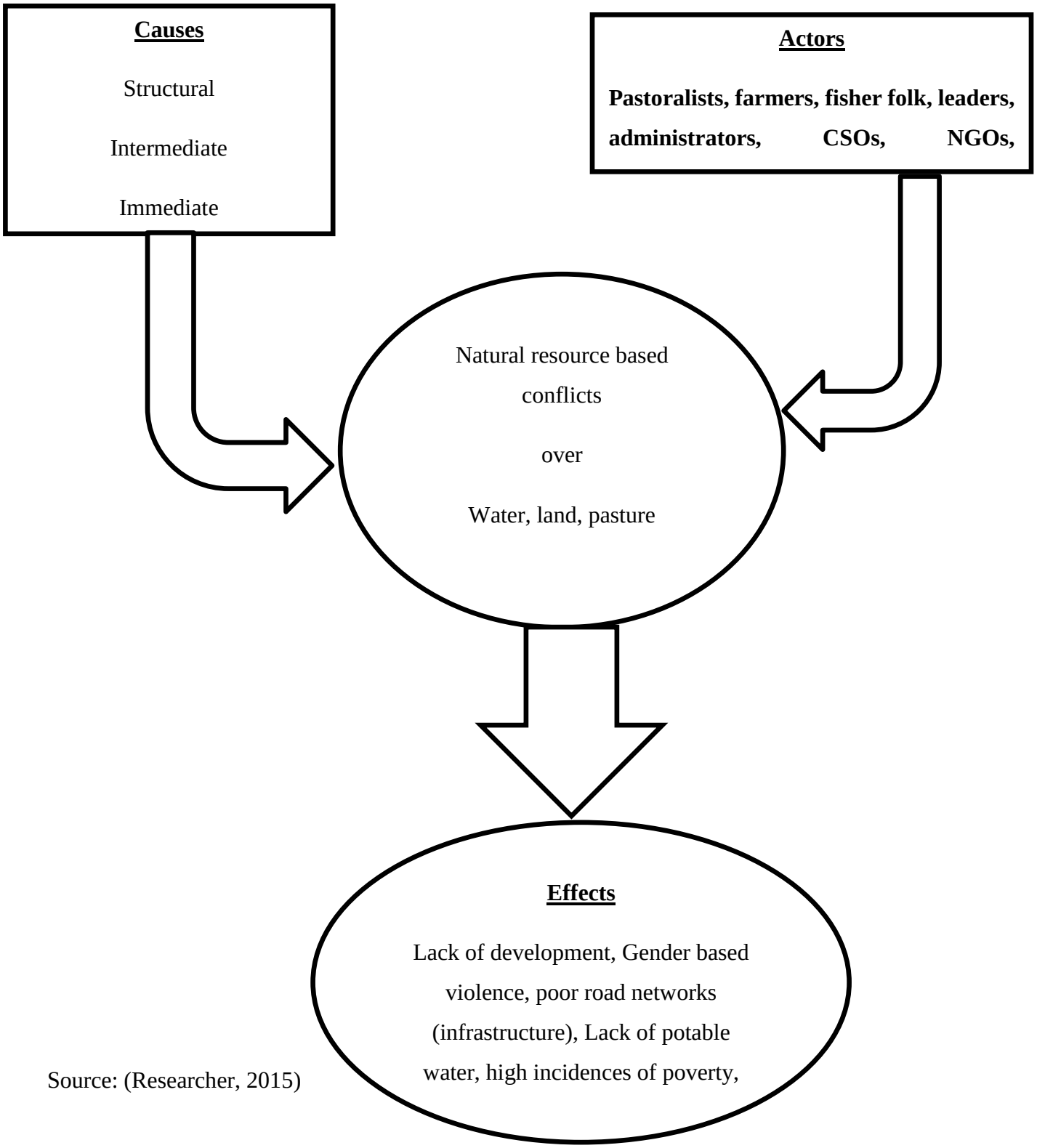
Whether the communities choose a conflicting or cooperative path depends on the communities' motivation and capability to realize a certain path. If one element is missing or underdeveloped, the path cannot be chosen. The motivation is the result of the balance between the expected gain and the expected loss of a certain course of action. Livestock raiders for example weigh the likelihood of capturing a significant number of Livestock against the likelihood of getting shot, wounded or arrested. For an actor to be motivated to engage in cooperation, the benefits of the cooperation for example in the form of inter community reciprocal grazing agreements have to

outweigh the benefits from livestock raiding. While raiding gives raiders an opportunity to realize immediate livestock gains, the raiding also increases the risk of retaliation by the raided community. Cooperation on the other hand improves the security of the cooperating communities but the resource gains in the form of access to water and pasture are mostly realized on the mid to long term (Schilling, 2012)

Capability is usually defined as the ability to execute a certain course of action (Scheffran *et al*, 2012). In the context of raiding the capability is mainly determined by the availability of resources, men, weapons, ammunition, skills and information about the target such as the location of herds, types of livestock and level of protection. The capability to choose a cooperative path mainly depends on whether a community is able to establish reliable agreements with the neighboring community.

In theory, both Orma and Pokomo communities have the choice between investing into resource sharing, cooperative path, or pursuing livestock raiding and the destruction of the competitor's capabilities hence the conflicting path. Yet in practice, Figure 2.1 Shows that if one community chooses the conflict path the other actor is almost forced to take this path as well to avoid disadvantages. In general, the overall benefit from mutual cooperation exceeds the one of a conflicting relationship as no resources are wasted for destructive purposes.

2.20 Conceptual framework



Source: (Researcher, 2015)

2.20.1 Causes of conflict

Conflicts are caused by various factors which can be classified as immediate, intermediate and structural factors. In this framework structural causes are the root causes or long-term causes; intermediate causes are the recent or mild events which require some other intervening acts in order to have an overall impact. Lastly immediate causes are the trigger causes that lead to conflict escalation. The main resources that causes conflicts in Tana River County are Water, Land and pasture.

Some structural causes have been identified when discussing conflict in Tana River County. They include competition for resources, traditional pastoral and cultural values, scarcity of rainfall and poverty. The intermediate cause of conflict (proximate causes) is caused as a result of deliberate neglect or actions that fail to consider immediate needs of the people by various actors. They, include systematic neglect, politicization of conflict, interference, unsound food security policies, media highlights, declining traditional authority and commercialization of raids. Some of the causes here are themselves effects of violent conflicts hence help to understand the cyclic nature of conflict in Tana River County. The immediate trigger causes are mainly immediate incidences that results to violence. They are associated with reactions to certain specific events that have impacts in people‘s perception and require immediate response such as violent incidences, theft raids, Government operations and inflammatory public speeches. Immediate triggers factors include; specific violent incidences, livestock theft, raid of one group on another, government military operations, inflammatory public speeches and inflammatory media.

2.20.2 Effects of conflict

The outcome of conflicts manifests itself through; Lack of development; Gender based violence, poor road networks and other infrastructure, Lack of potable water, high incidences of poverty, high cost of living, poor education and poor health, food insecurity, interruptions in education cycle, reduced access to health care services, and trade. Reduction in livestock sales through raids, loss of life and property, lack of water and pasture, degeneration of social relationships, forced migration of families and livestock, negative psychological and social impact of death, closure of the borehole, and intensified insecurity leading to reduced outdoor activities (Gakuria 2012)

The factors are influenced by various actors which will be discussed in the next section.

2.20.3 Conflict actors

Resource conflict in the drier parts of Kenya characteristically involves many actors and is influenced from within the locality, regionally and internationally. The following section will discuss the various actors involved in the Tana River conflict. The factors are influenced by various actors which include Pastoralists, farmers, elected leaders, and government administrators, CSOs, NGOs, Government, Women and Children.

2.20.4 Herders and pastoralists

In, Kenya especially the nomadic pastoralists are the ones who search for pastures and water for their livestock. They move along territories and eco-zones, which are claimed or controlled by other parties. As noted earlier, pastoralists are people or groups living in marginalized areas, practically all conflicts in ASALS, involve the residents of these areas. It has been established that through their perceptions, altitudes and cultures, they can make a determination of the way the

conflict manifest itself. Practices such as communal ownership of pasture, territorial control, can determine the extent of conflict, example include, Degodia herders, who invaded the Ajuran territory. These types of conflicts are common in pastoralists' areas.

2.20.5 Political leaders and warlords

Political leaders such as Members of Parliament (MPs) and party leaders and councilors who are currently called Members of County Assembly (MCAS) can be facilitators of a conflict especially by their acts of commissions and omissions (Fratkon E, 1994). They can also directly promote conflict by certain propaganda or while competing for political leadership like in general elections and party elections (Amisi, 1997). Politicians and warlords can sponsor raids as a way of raising funds for political campaigns or to maintain political leverage over their opponents in order to win power easily. They often support raids and conflicts with other clans as a way of enhancing their reputations. However, the practices had been distinctly a feature in Somalia more than in Kenya due to central authority's control over politicians in the latter case.

2.20.6 Administrators

The crop of District Commissioners, District Officers and Chiefs who are charged with administering security in the district have been identified to be part and parcel of conflict. They are sometimes involved in raid either as facilitators or promoters with intention of taking a share of the loot at times. Ibrahim and Jenner found that during in the 1992 to 94 conflicts in Kenya, the local provincial administration at the lower level of the chiefs, were the major players since they funded and directed the conflict.

The administrators also misuse security forces in certain areas while favouring certain groups hence fueling further conflict. Where crucial resources like water are guarded by security forces they favor certain communities seen as either perpetrator of conflict or not worth the equity in resource utilization.

2.20.7 Non-Governmental Organizations (NGOs) and Civil Society Organizations

Civil society in a local area of conflict is subject to the stereotype attitude of those local groups towards one another hence engage in activities that promote direct conflict. Non-Governmental Organizations that operate well in an area will discriminate against other users seen to be foreigners. External agencies on the other side may fuel conflict by providing easily to manipulate aid or project such as; giving power to the local kingpins who have the power to control relief aid, giving extra income to fighters, inadvertently or deliberately or reaffirming existence of power advantage of one disputant against the other and creating undue advantage for one party relative to the local inhabitants or other competitor. If a new water point is developed, this can put into jeopardy the traditional rights and access to the resource and may increase misunderstanding and conflict, their attitude toward local organizations and conflict management may hinder conflict resolution. Poor attitude towards Islamic organizations as Goldsmith noted "can transform conflict into a fully blown religious conflict". However, where relations and attitudes are positive; conflicts can be greatly reduced because they remain open to negotiations, discussions and communication facilitations.

2.20.8 Role of Government in Conflict

The Conflicts that usually occur in the pastoral localities is usually linked to the fact that these areas are quite remote and at the periphery of the country. Pastoral communities are viewed as marginal geographically, but they are also marginalized in politics and culturally. There is a presumption of a great distance from the pastoral communities to the modernized institutions and also from the central command of the government, hence giving the acceptance that they can engage in violence without the intervention of the central government, a situation described in some literature as minimum security or minimum government presence

In some parts of Kenya, mainly in the north and parts of coastal counties the presence of the government is very marginal and hence its service delivery is also marginally felt by the residents. This state of affairs where the government is inactive is dangerous in many ways.

At the local level, people do not believe that the government has no capacity to respond to their needs. The lack of immediate response from the government is seen as deliberate action to discriminate against the citizens as opposed to the weakness of the state machinery. The failure of the government to act therefore can play a contributory role in directly or indirectly escalating the conflict. Further, the existence of a non-responsive State kills the initiatives of the local people. As the government usurp the arbitration role and administration of justice, the state machinery clouds out the local initiatives for conflict resolution. If the state does not honour their pledges, then it may have been overtaken by events to explore alternative methods of mediating in the conflict, and escalation of violence is more likely than not. The influence of the traditional leaders,

could give an optional opportunity for redress, and does not depend on state machinery and hence their authority is severely weakened and is no longer a viable option.

Theoretically the state has a monopoly of violence, so every form of hostility is by design happening with state authority. Open hostility, albeit not aimed against the government, is by all intents and purpose a declaration of political independence from the regime (Kurimoto & Simonse, 1998). In the discussion above, it is evident that violent and random involvement of the security forces is an attempt to salvage the rights of the state to wield violence. Conversely, express conflict resolution measure by the state by use of the military forces to disarm the Pokot, Turkana and Karamojong in the mid-1980s in Kenya, are viewed as a modification of the equilibrium of power among various groups, with a consequential increase in aggression, (Dietz, 1993)

In conclusion, every examination of the conflict, state ought to recognize the reality of assorted and frequently contradictory attention inside the government organization itself. Diverse State machinery, like County Commissioners, Members of Parliament, local chiefs or security committee, could be having dissimilar agenda, and they are aware of the differences that exist between them. The idea of the state ought to be broken down into its diverse components and allow each component to play its role in the conflict resolution process.

2.20.9 Impact of conflict on women and children

Quantitative examination, looking at information on smaller scale level sex violence and large-scale level state tranquility, shows a connection between more elevated amounts of household violence and a more prominent increase of fierce conflict. While it has not been conceivable to set up a causal connection, discoveries underline the significance of the obligation to avert brutality

against women (Hudson et al, 2012). Factual datasets additionally recommend that more elevated amounts of sex disparity in a nation correspond with increased probability of intra-and between state strife (Melander, 2005)

Conflicts disproportionately affect women: Women are often vulnerable in the broader sense (physically, economically, socially and politically) and therefore often carry a disproportionate burden of the effects of natural resource conflicts and stress. A number of authors have expounded on this this point. (Perry et al., 2010) assert that while the actual costs of natural resource conflicts on women are multifaceted and hard to measure, women often experience greater food and economic insecurity and are affected by unsafe or illegal practices. (Omolo, 2010) found that women in pastoral communities in Kenya are vulnerable through cattle raids, which are often the result of droughts. (Bob, 2010) also highlights that apartheid-induced land scarcity has led to women being abandoned, experiencing violence and widows being dispossessed of land.

CHAPTER THREE

MATERIALS AND METHODS

3.0 Introduction

This section outlines the study process and describes how the entire research was carried out. It defines the study area, the study approach, sampling design, types of data used and their sources, data collection tools, data collection process and data analysis used during the study.

3.1 Location of the study area

3.1.1 Background

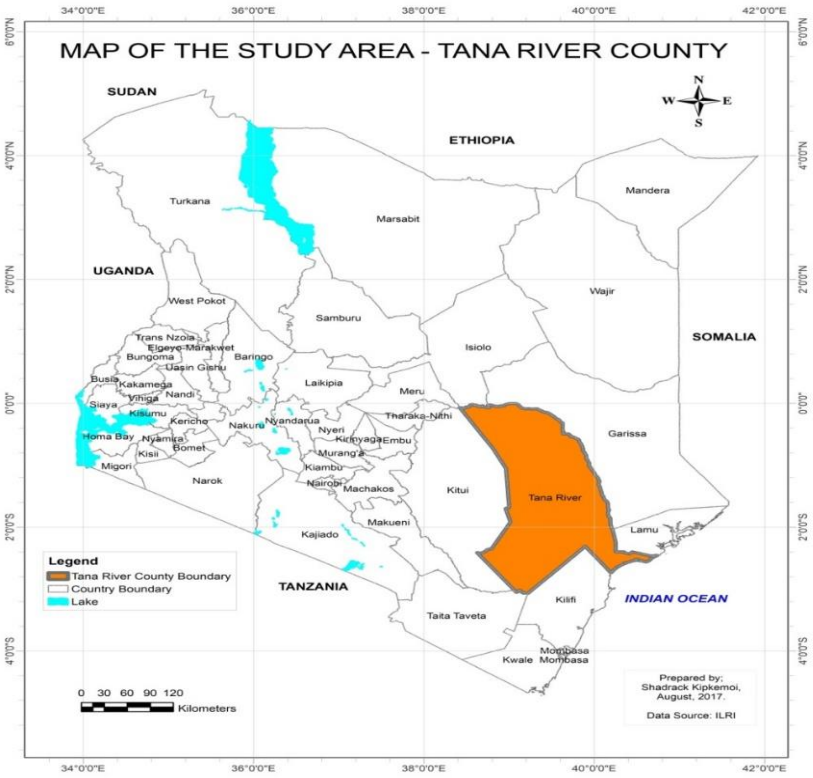


Figure 2: Kenyan map demonstrating position of Tana River County

Tana River County one of the 47 counties in Kenya and is situated in the sea front locale of Kenya. The County borders Kitui County to the West, Garissa County to the North East, Isiolo County to the North, Lamu County to the South East and Kilifi County and Indian Ocean to the South. The county spans between latitudes $0^0$0'53" and $2^0$0'41'' South and longitudes 38^0 30' and $40^0$15' East and has a total area of 38,862.20 Km^2. The county has a coastal strip of only 35 Km. Tana River County is a rolling plain that is broken in a few places by low hills at Bilbil around Madogo and Bura administrative sub-units. These areas are also the highest points in the county. The land in Tana River usually slopes south eastwards with an altitude that varies between 20m to 200m above sea level.

The most outstanding topographical feature is the River Tana that traverse the county from the Aberdares in the North to the Indian Ocean in the South covering a stretch of approximately 500km. It discharges on average 4,000 million m3 of freshwater annually entering the ocean near Kipini at Ungwana Bay. The Seven Folks Hydro Electric Power Stations and Bura and Hola irrigation schemes are located upstream of the delta. Tana River supports industrial and other socioeconomic functions such as power generation, agriculture, livestock, tourism, and micro-enterprises found within the basin. The delta has many shallow lakes and wetlands resulting from meanders of the Tana and recharged through ground water seepage or by the periodic flooding of the River. These are not only unique habitats but also provide food, livelihoods and social benefits to local communities. The basins of oxbow lakes and the deeper parts of dammed lakes where water remains for most of the year include Lakes Bilisa, Shakababo, Kongolola, Kitumbuini, Dida Warede, Harakisa, Moa and Kenyatta (Otundo ,2012)

Besides the Tana River, there are numerous seasonal rivers in the county popularly known as *laghas*, which flow in a west-east direction from Kitui and Makueni counties draining into River Tana and eventually into the Indian Ocean. The riverbeds support livestock as well as wildlife during the dry season since they have high ability to retain water. River beds are most fitting sites for shallow wells, sub-surface dams as well as earth pans. However, these *laghas* are also major impediment to road transport as they cut off roads during rainy seasons making the county virtually land locked.

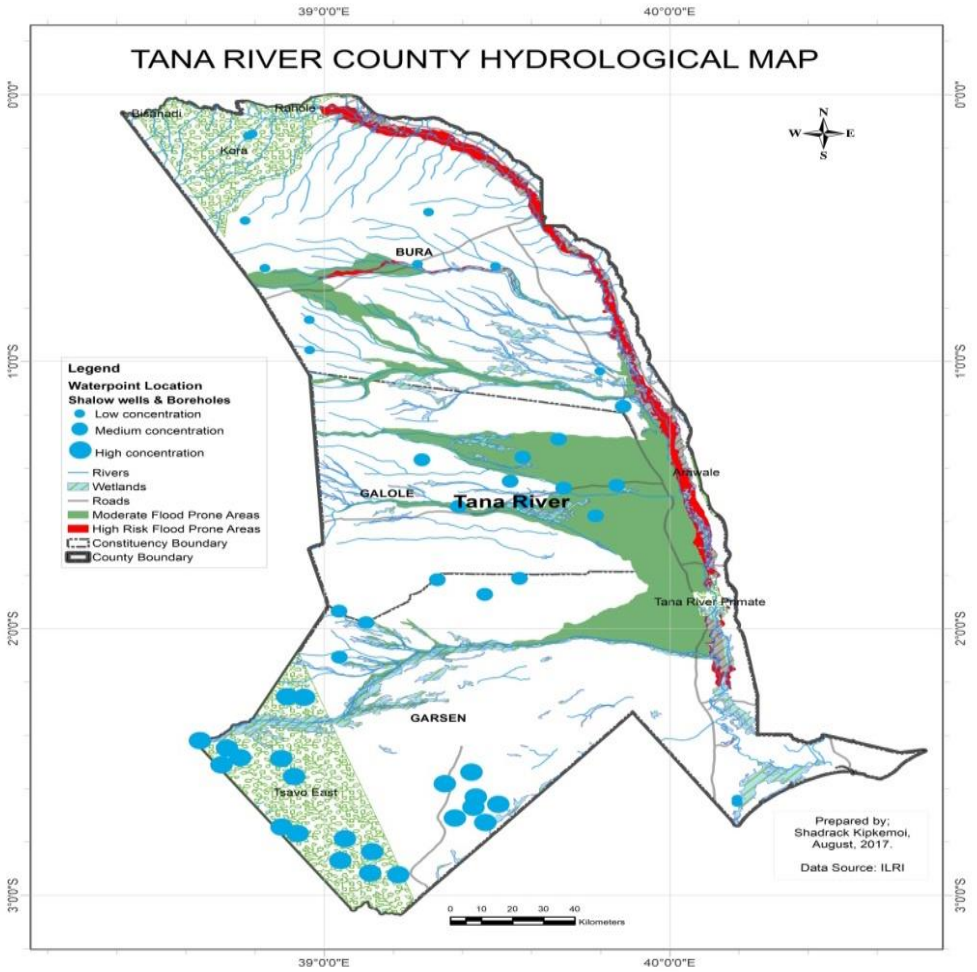


Figure 3: Hydrological map

3.1.2 Soils

Soils at the Tana River Delta are generally classified as Fluvisols being divided into two subgroups: eutric and vertic Fluvisols. The floodplain consists of chromic Vertisols, i.e. silt clay with no salinity or alkalinity. In the meander belt (river levee land) taking into consideration old and new river courses, the soils are yellowish – brown, often stratified, sand to clay rich in Micas. The textures of topsoil ranging variably from sand to clay while the sub-soil being firm clay. Infiltration of such soils will thus vary with texture being slow in areas with clay as topsoil, and fast where sand forms the top soils. Such soils have been described for the area between Lango la Simba and Abarfarda River where the topography is flat to gently undulating.

On the fringes of levee land is the river basin land, an area with different soil types dependent on levels of sedimentation. Typically, these soils consist of heavy to very heavy clay. Here the top soils (up to 100 cm) are non-saline but salinity increases with depth. The soils have slow infiltration, especially when saturated and can be classified into three subtypes. On flat, moderately high lying and weak Gilgai areas, the soils are deep with 10-20 cm of very dark gray clay overlying dark brown clay. On moderately low-lying areas, top soils are very dry dark gray clay over dark grayish brown, cracking clay. On areas of shallow depressions on gullies, the dark gray topsoil overlies dark gray, cracking clay (Otundo, 2012) Soils are characteristic of alluvial deposits from the river's hydrological processes. The main soil types are deep, well drained, dark brown and cracking vertisols and fluvisols (Kenya Soil Survey, 1984).

3.1.3 Agro- Environmental Zones

The county is partitioned into four agro- environmental zones specifically: CL3 Coconut – Cassava zone (non ASAL), CL4 - cashew nuts- cassava zones where the most income generating activity

is mixed farming; CL5 - lowland animals' zone and CL6 - lowland farming zones where the local people are involved in in pastoral activities. The soils extend from sandy, dark clay and sandy soil to alluvial stores. The soils are well developed around the riverine situations but exceedingly vulnerable to disintegration by water and wind. Soils within the hinterlands are shallow and have experienced seasons of trampling by animals, hence are effectively dispersed during the windy seasons.

The region has a hot and dry climate within ecological zones ranging from III (in the very high grounds) to VII (in the plains or lowlands). Average annual temperatures are about 30^0C.The highest being 41^0C around January-March and the lowest being 20.6^0C around June-July.

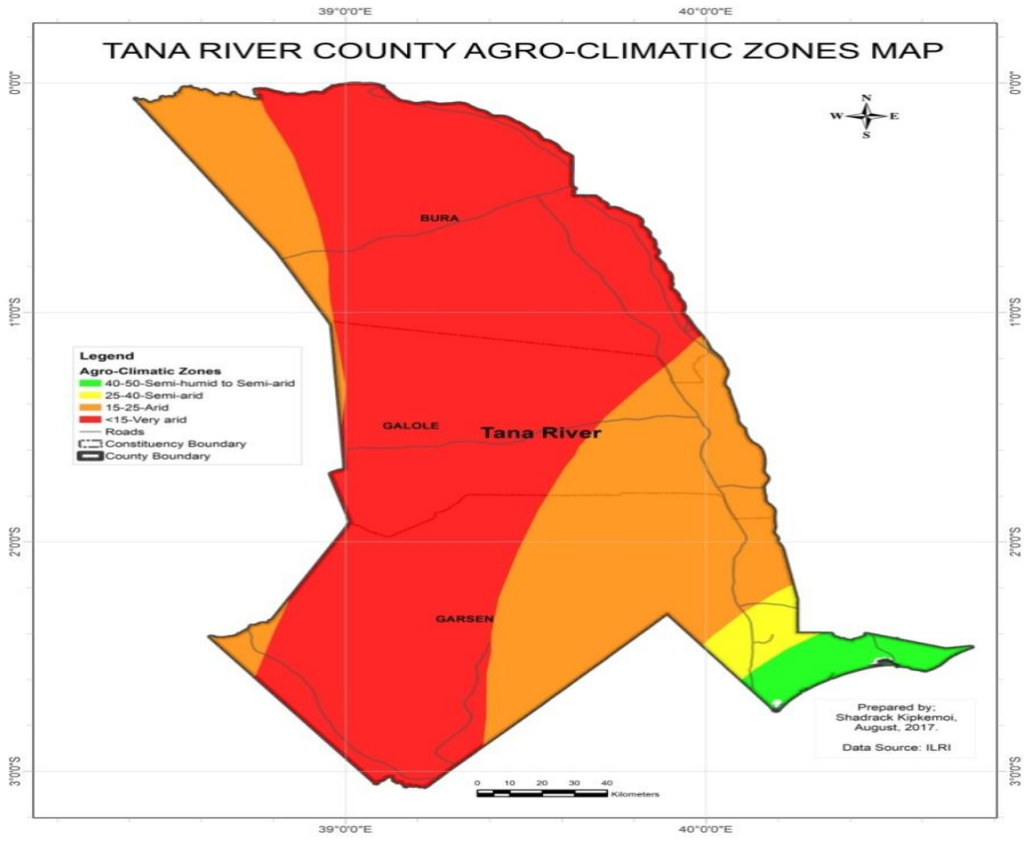


Figure 4: Agro climatic Zones

Precipitation is mostly, bimodal and sporadic. The overall yearly precipitation ranges between 280 mm and 900 mm. Long downpours happen in April and May whereas short downpours occur in October and November. November is the wettest month. Rainfall in Tana River County is of convectional sort. The Inter Tropical convergence Zone (ITCZ), which influences the wind and non-seasonal air pattern for the river Tana, decides the amount of precipitation along the river. The dry climate in the hinterland can only sustain nomadic pastoralism.

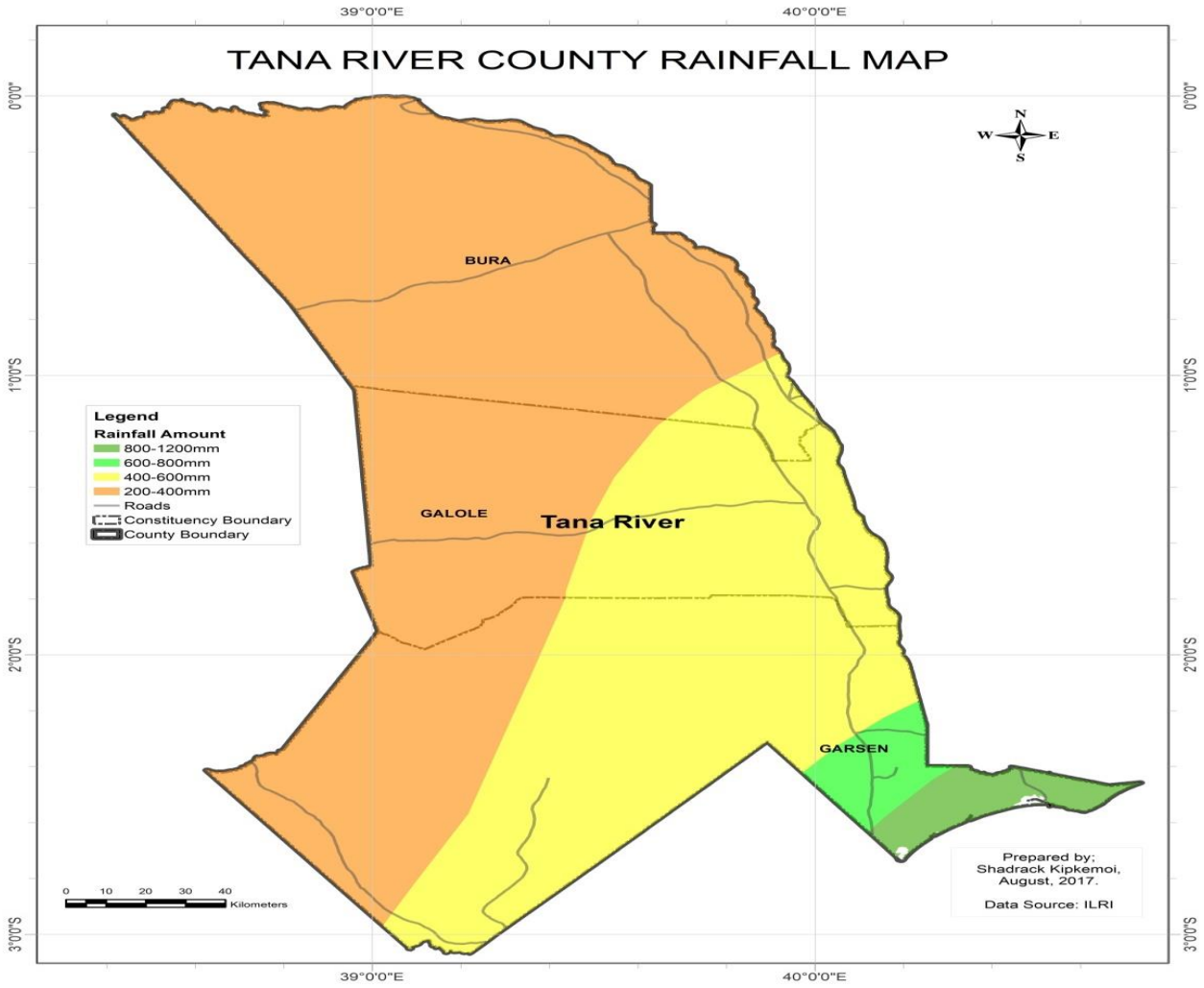


Figure 5: Rainfall Map

3.1.4 Economy of Tana River County

Farming and nomadic pastoralism are the most economic activities in Tana River County due to the dry conditions and erratic rainfall patterns experienced in the county. Farming is practiced by farmers in the strict sense and agro pastoralists mainly in the coastal margin: Tana Delta with rain fed agriculture and also along Tana River banks with the practice of flood recession agriculture mainly, meaning planting occurs when the floods subside from the farms. Irrigation with engine pumps is rare, and the past attempts of implementation of this technology were not deemed successful. Rain fed farming towards the arid lands has been compromised by erratic rainfall patterns which cannot anymore sustain the development and growth of the crops at their early stages.

The land tenure is about 1.5 acres per household. The number one limiting factor for farming in the sub region being land preparation, it is hard for a household to manage to plough more than one acre and a half manually on their own. Some farmers resort to hire a tractor for ploughing services which costs about 2500 shillings per acre and save them a lot of labour force. Oxen ploughs are not very common. The greatest majority of farmers do not have title deeds for the land they plough. The main crops are maize and pulses – green grams for Tana Delta and beans further North in Tana River.

Mango tree culture plays an important role in the local economy generating good revenues and moreover this crop is not very demanding in terms of cultural operations with the harvest being the main operation. Cassava plays also an important role not at the economic level but in terms of food security as Cassava is a biannual crop which tuber root can be harvested at any time and therefore does not follow a seasonal pattern. Cassava is then a fallback for the hunger season or hunger gap which occurs before the long rains season harvest: May-June-July. Apart from

mangoes, the main cash crops are Banana, Tomato, Onions, Kales or Sukuma wiki, Cowpea or Kunde, Capsicum and Water melon. Rice is practiced on minor and commercial irrigations schemes in Tana Delta and also on some small scales farms along Tana River. Cashewnut is another tree culture which generates revenues but on a much lower scale than mango. Finally Sesame, groundnut and sweet potato can also be cultivated but are the less common of the above crops, cotton has been mentioned but is marginal.

Fertilization is not much practiced as the soils –heavy clay to loamy soils- are fertile enough and not yet exhausted in the sub region. Farmers reuse their own seeds for the planting season generally and it is hard to find certified seeds on the market except for horticultural seeds. Although pests and disease control is recommended, the great majority of small scale farmers have no resources to apply pesticides on their crops when pests or diseases occur.

There are a few farming groups, but they exist mostly because support is given to them in terms of capacity building, training or farms inputs, rather than for the purpose of commercializing their products together or buying inputs together as it is generally the purpose of most of the farmers organizations (cooperatives, associations) worldwide

The Tana River is the major water resource in the area. Riverine forest, prairie, bush lands, lakes, open stream channels, sand dunes, mangroves and coastal waters contribute to making Tana river one of the most environmentally diverse territories and a tourist fascination within the country. The county has Potential for enormous water system projects within the Tana River Delta that traverses the county. Amid the dry seasons the delta gives the ultimate pasture land for the livestock.

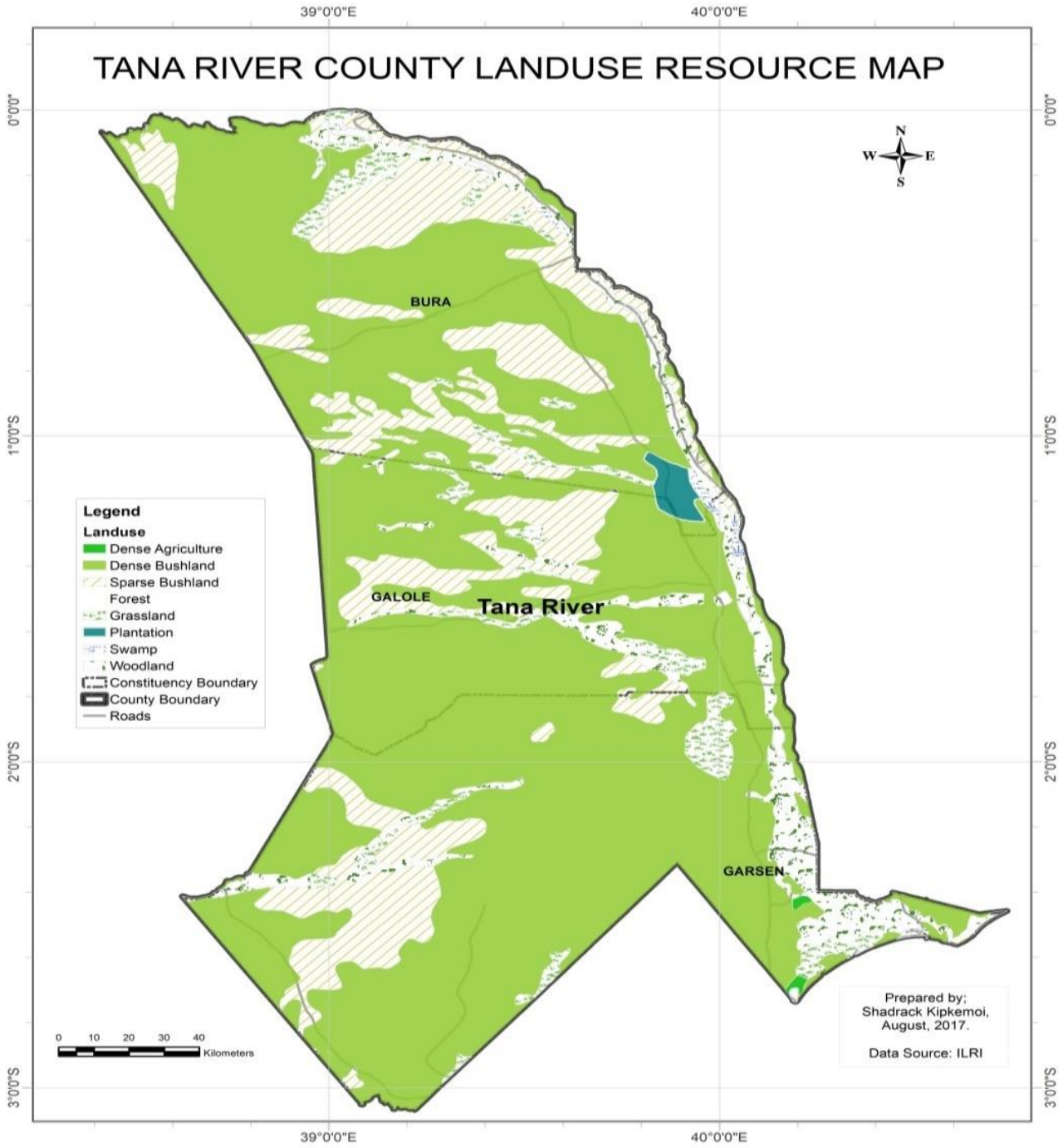


Figure 6: Land Use

3.1.5 Infrastructure

Tana River County has a total of 1,108 Km of classified road network. Out of this, about 55 percent of the total road network is in good condition. Most of the roads are intercepted by seasonal rivers, commonly known as *laghas*, which make them impassable during the rainy seasons. Although the county produces most of the marketed mango fruits in major towns in the Coast region, most of the produce ends up rotting in farms due to poor road network. The county government therefore, has to allocate adequate resources for scaling up road improvement and opening up new roads.

The county is served by three mobile phone service providers that cover 55 per cent of the county. These services are however concentrated along the Garissa-Malindi road. There are three post offices in the whole county located at Bura, Hola and Garsen. The landline is in deplorable state and does not function in most areas. There are five courier service providers in the county. Internet connectivity is still low with most people using modems from mobile phone service providers. Investments in DSTV, GTV and other free to air satellite television has nevertheless made access to local and international broadcasts possible in the county.

3.2 Design of the research

This section outlines the study process and describes how the entire research was carried out. It defines the study approach, sampling design, types of data used and their sources, data collection tools, data collection process and data analysis used during the study.

Study design is a logical arrangement used to collect research evidence for purposes of reducing the ambiguity of research evidence by ensuring the evidence obtained can allow the researcher to answer the initial research questions (De Vause, 2001).

3.2.1 Research process

This study begun by identifying the field of study and a research subject. A research problem was developed with research questions and the study objectives. Hypotheses were then formulated. This was followed by literature review on conflicts internationally, regionally and within the country with an intention of drawing parallels between the natural resource-based conflict in Kenya with conflicts occurring in other countries and also to identify existing gaps if any in the field of study.

3.3 Study approach

This study employed various approaches at the various stages of research. Primarily, this is a case study involving intensive descriptive examination of natural resource-based conflicts in Tana River County as a single entity in order to gain insight into larger and widespread natural resource-based conflicts cases in the global arena.

The study adopted a survey and interview design to establish the causes and effects of conflicts in Tana River County. This design is appropriate since it has advantage of using quantitative analysis of data and also allowing for generalization of results to the entire population. Surveys are used to reach a large number of respondents, hence are useful for the study of perceptions of respondents regarding conflicts in Tana River County. Interviews conducted through focused group discussions gave an in-depth analysis of various topics regarding conflicts in the study area. Data was collected at household level on demographics, causes of conflicts and impacts of conflicts on food security, health and education. Further, data was collected on conflict resolution and the role the county government has played in resolving the conflict.

3.4 Study area

In selecting the study area, purposive sample was employed. Tana River County was identified due to its natural resource endowment in terms of land and water resources and the presence of the two livelihoods of farming and pastoralism which naturally have varied needs at different times of the year. This presented a classic example of resource endowment which can lead to conflict if not well managed. Tana River has been in the limelight in the subject of natural resource-based conflict and an attempt to study this subject in this particular locality had a very good chance of encountering it rather than going on a fishing expedition in areas where no natural resource-based conflicts had been reported before.

3.5 Target population

It is not possible to study the whole of the target population and hence researchers identify and define an experimentally accessible population (Mugenda and Magenta, 2003-4). The target population is a total of elements about which the study wishes to make inference (Cooper and Shindler, 2001)

To determine the respondents in this research, multistage stratified systematic design was employed. The county was first stratified in to its administrative units called sub-counties and wards. Tana River has three sub-counties and 15 wards. In determining the size of the sample, I used the statistical rule that $n \geq 30$. A sample of 140 was determined, and distributed uniformly in the three sub-counties and the 15 sub-counties to ensure widest distribution. The first respondent was selected randomly while the other respondents were picked by skipping one household and picking the next. The questionnaires were administered to the head of household.

The research adopted stratified random sampling method for selecting the household respondents. The stratification was based on the sub-counties, where by each sub-county was sampled. Stratified random sampling ensured that the whole county was covered.

The study used both qualitative and quantitative methods to collect secondary and primary data from the sampled farmers and other key informants. A questionnaire was developed capturing all the aspects under investigation and had sections as follows demographics, causes of conflicts and impacts of conflicts on food security, health and education. Further, the questionnaire had areas of conflict resolution and the role the county government has played in resolving the conflict.

This questionnaire was administered to the farmers and pastoralists. The questionnaire sought to find out the factors that has continued to fan conflicts in Tana river county and the resultant effects on the social and economy of the county, the questionnaire also had questions on the suggested ways of mitigating the conflict and lastly some questions were asked to gauge the role of the county government in mitigating the natural resource-based conflict. Most questions were structured and required the respondents to identify the responses from the questionnaire while others were in the Likert scale format where the respondents indicated their perception regarding the issue under consideration,

3.6 Sources and type of data

The study used both primary and secondary data in an attempt to solve the stated problem and address the objectives. The primary data used in this study was sourced from farmers and pastoralist who were sampled as respondents for the questionnaire. CSOs, CBOs and government employees were also interviewed through an interview check list. The secondary data used during the study were sourced from relevant libraries.

3.7 Sampling design

A sample is a smaller group or sub-group obtained from the accessible population (Mugenda and Mugenda, 1999). This subgroup is carefully selected to be representative of the whole population with the relevant characteristics. Several sampling techniques were used in this study at various levels. To determine the study area, purposive sampling was employed to identify Tana River County as the study area. Stratified sampling was employed to determine the sample respondents. Tana River County was first divided into three sub counties using the existing sub county boundaries. Within the sub county, questionnaires were administered in all the 15 wards. This ensured wide representation and balanced distribution of respondents in the entire county, each sub county was allocated 40 slots of respondents. The study administered a total of one hundred and twenty (120) questionnaires. The distribution of target population and sample size elements within the county are summarized in Table 3:2

Table 3.2: Distribution of the sample.

S.No	**Name of Sub-county**	**No. of respondents interviewed**
1	Bura	40
2	Galaole	40
3	Garsen	40
Total		120

All the communities in Tana River County are either agro-pastoralist or pastoralists and yet a minority of them are fisher folks. They are faced with varied levels of exposure to conflicts; hence all of them have a probability of coming face to face with the conflict.

Therefore, the sample size was arrived at using the following formula.

$$n = \frac{z^2pq}{d^2}$$ Fisher *at al*. (1991)

Where, **n** = sample size,

z = standard normal deviate, which is set at 1.96 and corresponds to 95 % confidence interval.

p = proportion of the population having a particular characteristic for example the portion of households having experienced conflicts (0.9)

q = 1-p, proportion of households without experience of the conflict (0.1)

d = accuracy usually at 0.05

This formula has been used in similar studies by (Gakuria, 2012) and (Margaret, 2013)

$$n = \frac{(1.96)^2(0.9)\ (0.1)}{0.05^2}$$

n=138.3 which is approximately 140. However due to limitation of resources, the vastness of the area and the rough terrain, the study used a sample of 120 respondents.

3.8 Data collection tools and equipment

Data collection was conducted using questionnaires, focused group discussions and field observations

3.8.1 Questionnaire

The field questionnaire was the principal tool for this study. According to (Mugenda and Mugenda, 1999) questionnaires give a detailed answer to complex problems. Questionnaire is a research tool that gathers data over a large sample. In addition, questionnaires are also a popular method for data collection because of the relative ease and cost-effectiveness with which they are constructed and administered. Questionnaires give a relatively objective data from a large sample with diverse background and therefore, are most effective.

The questionnaire for this study mainly consisted of structured questions (Appendix iii). The questionnaire had five main sections, the first and second sections were on personal information. The third and fourth sections dealt with factors that has continued to cause conflicts. All the identified parameters under investigation (causes of conflicts and impacts of conflicts on food security, health and education. Further, data was collected on conflict resolution and the role the county government has played in resolving the conflict.) Were listed against their possible responses. The last section was on farmer perception on the role of the county government in conflict resolution and if the infrastructure put in place by the county government were adequate to enhance the livelihoods of the residents of the county and hence build their resilience to future conflicts and other livelihood impacting factors.

Four research assistants were identified and trained on the administration of the questionnaire and sampling techniques. The research assistants were conversant with the study area and were able to

communicate in the local language which was instrumental since some respondents were illiterate and could only communicate in the local languages.

It was desired that the research assistants have a minimum of diploma level in a field of study related to the subject matter of environment or conflict management. The researcher managed to get degree holders in the field of agriculture and one with diploma in education, early childhood option. Upon assessment, they were found to be qualified to undertake the study. The education levels in the study area is relatively low, but the researcher was lucky to get the services of the qualified fresh graduates which made the exercise of data collection a relatively easy task to achieve. Their enthusiasm to collect the data and be associated with the research process also played a major role in the success of the data collection.

Data was collected by visiting the respondents in their homes or place of work and asking them the questions and entering the answers in the questionnaire as appropriate. This was a face to face interview that lasted 30-40 minutes.

There were two types of questionnaires as described below:

(1) The livelihood specific questionnaire - This was applied to the respondents in the two livelihood categories.

(2) The second questionnaire was administered to the key informants who included NGO and CBO personnel working in the county, government personnel from both county and national governments, to elicit their perception and attitudes on the conflict in the county and the suggested solutions. Focused group discussions were conducted in three sites which gave the views of the pastoral, agro-pastoral and the fisher folk on the conflict situation in the county.

The study consisted of two phases; that is the pilot study and the actual study. The study collected both qualitative and quantitative data to establish the causes and effects of conflicts in Tana River County. The pilot study was carried out in Galole Sub-County. Galole Sub-County was selected due to its ease of accessibility and its central position and availability of many stakeholders.

The questionnaires were pre-tested to check if some questions were not understood or were ambiguous. This allowed for modification where necessary before the actual study was carried out. At least five households and one key informant were surveyed for the pilot study. The questionnaires were adequately administered with 97.5 per cent response rate.

3.8.2 Focused group discussions

The second instrument of data collection used in this study was focus group discussion. This was used to allow probing. Focus Group Discussion were used as a qualitative research technique for plotting out systems and answer questions of "why" and "how", especially regarding the data collected in the questionnaire interview.

Where information was not clear from the questionnaires the discussion elucidated how natural resource-based conflicts have impacted on the social and economic development of the county. The discussants were in groups of 8 -12. The meetings took between 3-4 hours and they were done in all the three sub counties with the permission of the area administrators. Key informants' interviews was done with people having vast experience and knowledge who could provide extensive insight into the intricacies of the conflict in Tana River and the possible solutions to it.

3.8.3 Data sheet

A data sheet was developed and used to compile and serialize the questionnaires.

3.9 Data collection procedure

This study used a structured type of questionnaire with close ended questions accompanied by a list of all possible alternatives from which respondents selected the answers that best describes their situations. The questionnaire was administered by explaining the questions to the respondents, one participant at a time. Adequate time was given to the respondents to respond to the questions. The researchers then filled/recorded the responses in the questionnaire. The descriptive data obtained from the respondents as captured by the questionnaire variables were later used to run the frequencies and generate inferential statistics.

3.10 Data processing and analysis

3.10.1 Data processing

Field data were subjected to data processing techniques before analysis started as outlined in the steps below;

1. All the filled in questionnaires were serialized.
2. The serials were compiled to form datasheet
3. A book code/ platform in SPSS platform were developed to enable entry of data.
4. All the variables in the sample data that related to Natural resource-based conflicts causes and impacts were entered in the frequency analysis model.

3.10.2 Data analysis

The sample data were analyzed using descriptive statistical techniques to show the distribution tendencies in the variables. All the variables. in the sample data that related to Natural resource-based conflicts causes and impacts were entered in the frequencies analysis model. In descriptive statistical technique, frequency analysis was used to show the number of occurrences in order to

determine the distribution mode or modal class while graphical technique was used to show proportion of occurrence as a measure of variable roles in a specific event. The outputs of frequency analysis were tabulated and graphically represented (bar charts and pie-charts).

The platform used for data processing and analysis was SPSS (Version 23). In frequency analysis, the frequency results were strictly tendency measures and therefore for description of sample data only. To get in-depth conditions of the variables described by frequency analysis, the study used cross tabulation technique.

3.10.3 Cross tabulation of variables of interest

Cross tabulation was performed on selected variables of the study in order to test association tendencies exhibited by the variables. For instance, gender variation was analyzed to see if the two genders had significant varied responses with regards to Natural resource-based conflicts causes and impacts that were under investigation. Also, the respondent's level of education and perception of the causes of natural resource conflicts was used to test if there were significant variances in responses. The results were then represented in tables and charts.

3.10.4 Significance tests

Diagnostic Tests was done through Cronbach's Alpha which measures the inner consistency,

Sampling Adequacy Tests was done through Kaiser-Meyer-Olkin Degree (KMO) and Bartlett's Test of Sphericity tests were conducted to establish data's testing ampleness. Further Normality was tested using the Levine's test which has power to detect departure from normality due to either skewness or kurtosis or both. Variance Inflation Factors (VIF) was computed in order to test the Multicollinearity and its reciprocal, referred to as tolerance.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Introduction

The current chapter gives the information concerning the research on components contributing to resource-based clashes in the county of Tana River. The research was conducted on a sample size of 120 respondents, out of which 117 respondents completed and returned the surveys duly filled in, making a response rate of 97.5%. (Mugenda and Mugenda, 1999) expressed that a response rate of 50% and over is good for statistical detailing. The study made use of frequencies on single response questions. On multiple response questions, the study used Likert scale to collect and analyze the information whereby a scale of 5 points was used to compute the means and standard deviations. The results were demonstrated in Tabular, graphical and chart form where appropriate with clarifications being given in the text that follows the illustrations.

4.2 Diagnostic tests

4.2.1: Validity and reliability

Unwavering quality of the survey was assessed through Cronbach's Alpha which measures the inner consistency. Cronbach's alpha was calculated by application of SPSS adaptation 23 for firm quality examination. The esteem of the alpha coefficient ranges from 0-1 and may be utilized to depict the unwavering quality of components extricated at 0.5 significance level from dichotomous and or multi- point organized surveys or scales.

A higher value appears a more solid generated scale. (Cooper & Schindler, 2008) have demonstrated 0.7 to be a worthy unwavering quality coefficient. Table 4.1 appears that statutory

issues had the most elevated reliability (α=0.899) taken after by Rationale, Motives and Aims (α=0.735). This outlines that all the three scales were solid as their reliability values surpassed the endorsed limit of 0.7 (Mugenda & Mugenda, 2008).

Table 4.1: Reliability coefficients

Scale	Cronbach's Alpha	Number of items
Rationale, Motives and Aims	0.735	3
Politics	0.899	3

4.2.2 Tests of statistical assumptions

Statistical assumptions were performed on the results of the study to test the regression assumption and statistic used. This included test of sampling adequacy, normality and multicollinearity tests.

4.2.2.1 Sampling adequacy tests

Kaiser-Meyer-Olkin Degree (KMO) and Bartlett's Test of Sphericity tests were conducted to establish data's testing ampleness. KMO degree shifts between and 1, and values closer to 1 are superior with a limit of 0.5. (Williams et,al 2012) expressed that KMO of 0.50 is satisfactory degree for sampling adequacy. Bartlett's Test of Sphericity tests the null hypothesis that the correlation matrix is an identity matrix; that, it analyzes if the tests are from populaces with equal fluctuations. Bartlett's test noteworthiness of 0.05 or less advance shows an acceptable degree of sampling adequacy; test is satisfactory, factorable and additional examination past clear can be done. The KMO measures of testing ampleness created values between 0.524 and 0.733 whereas

Bartlett's test of Sphericity had a reliable importance of $p < .001$ which depicted and confirmed sampling adequacy as shown in table 4.2.

Table 4.2: KMO and Bartlett's test

Scale	**Kaiser-Meyer-Olkin Measure of Sampling Adequacy.**	**Bartlett's Test of Sphericity**		
		Approx. Chi-Square	**Df**	**Sig.**
Politics	0.585	74.437	22	.000
Rationale, Motives & Aims	0.650	429.893	22	.000

4.2.2.2 Normality test

Normality was tested using the Levine's test with data as shown in table 4.3 which has power to detect departure from normality due to either skewness or kurtosis or both. Its statistic ranges from zero to one and figures higher than 0.05 indicate the data is normal (Razali and Wah, 2011). Levine's test assesses whether data is normally distributed against hypothesis that:

H_0: Sample follows a Normal distribution.

H_a: Sample does not follow a Normal distribution.

When the p-value is greater than the alpha value, then one fails to reject the null hypothesis and don't accept the alternative hypothesis. From the table above, one cannot reject the null hypothesis

H_0 that Politics (p = 0.725) and Rationale, Motives & Aims (p = 0.874. This owes to p-values higher than 0.05.

Table 4.3: Levine's test

	Statistic	**Df**	**Sig.**
Politics	0.725	114	0.031
Rationale, Motives & Aims	0.874	114	0.228

4.2.2.3 Multicollinearity test

Variance Inflation Factors (VIF) was computed in order to test the Multicollinearity and its reciprocal, referred to as tolerance. This occurs when the predictor variables in a multi-regression investigation are on their own vastly correlated, hence the determination of the real impact of corresponding predictors to the variance in the dependent variable is made difficult. Therefore, collinearity test quantifies the extent a regressor is interrelated to additional regressors and how they impact constancy and difference of the regression estimations. The presence of Multicollinearity denotes a pivotal challenge during application of manifold time series regression model. When independent variables in the regression model are highly inter-correlated, then Multicollinearity has occurred and it expands the variances of the estimated parameter. This has a possibility of leading into absence of statistical importance of specific predictor variables despite the significance of the general model.

To test for multicollinearity, this research scrutinized the correlation matrix as tabulated in table 4.7. The Variance Inflation Factor (VIF) computes how severe multicollinearity is in a regular least- squares regression analysis. Variance Inflation Factor VIF's values exceeding 10 depicts multicollinearity and the higher it is the starker is the problem. Results show that all the variables had a variance inflation factors (VIF) of less than 10: Rationale, Motives and Aims (1.361) and politics (5.186). This implies that there was no collinearity with the variables thus all the variables were maintained in the regression model. However, the variable; Politics had higher value of collinearity of 5.186 as shown in table 4.4.This is in conformity with the moderation assumption that the moderator and mediator must be related to both the independent and dependent variables.

Table 4.4 Collinearity statistics

Variables	**Tolerance**	**VIF**
Rationale, Motives & Aims	0.735	1.361
Politics	0.193	5.186

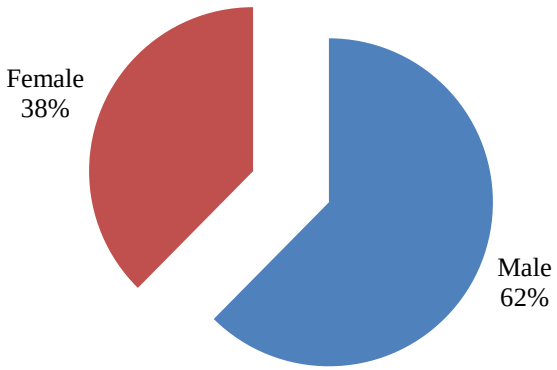
4.3 Demographic information

The study first collected data on the profile of the respondents that is, gender, age, place of residence, levels of education, occupation, income, Marital status, level of income as well as the experience they have had with regard to conflicts in Tana River county. This information aimed at testing the appropriateness of the respondent in answering the questions regarding factors leading to natural resource based conflicts in Tana river county.

4.3.1 Gender of respondent

The gender of the respondents was indicated as either male or female. The results are diagrammatically depicted in Figure 7. It was found out that, majority (62%) of the interviewees were male and 38% of them were female. This means that majority of the responses elicited during the study was contributed by the male gender. These findings are consistent with the pastoral communities where men are the de-facto head of household and women play a minimal role in headship of the household. So, it is a normal occurrence to have many men compared to women participating in the survey

Figure 7: Gender of Respondents



4.3.2 Age of respondents

The interviewees were asked to give an indication of their age bracket. The results are depicted in the Table 4.5.The findings show that most (46.2%) of the respondents were aged 36-45 years,

29.9% were 25-35 years old, 16.2% were above 45 years old and only 7.7% of the respondents were in the 15-24 age bracket. This implies that the elderly who were conversant with the problems in Tana River County were interviewed and also other age brackets were reached, hence a balanced response in terms of age was obtained.

Table 4.5: Age of respondent

Age bracket	Frequency (N)	Percent (%)
15-24 years	9	7.7
25-35 years	35	29.9
36-45 years	54	46.2
Above 45 years	19	16.2
Total	**117**	**100.0**

4.3.3 Level of education of respondents

The respondents were requested to indicate their highest level of education. The findings are as presented in the figure 7.

As per the findings, 29.1% of the respondents had Primary level of education, 27.4% had no formal education, 23.9% had College level education, and 18.8% had Secondary level education only 0.9 of the respondents had university level of education. The results show that the residents of Tana River County had not embraced formal education. However, the respondents were able to understand and respond to the questions because of the learned research assistant who used the local languages to communicate.

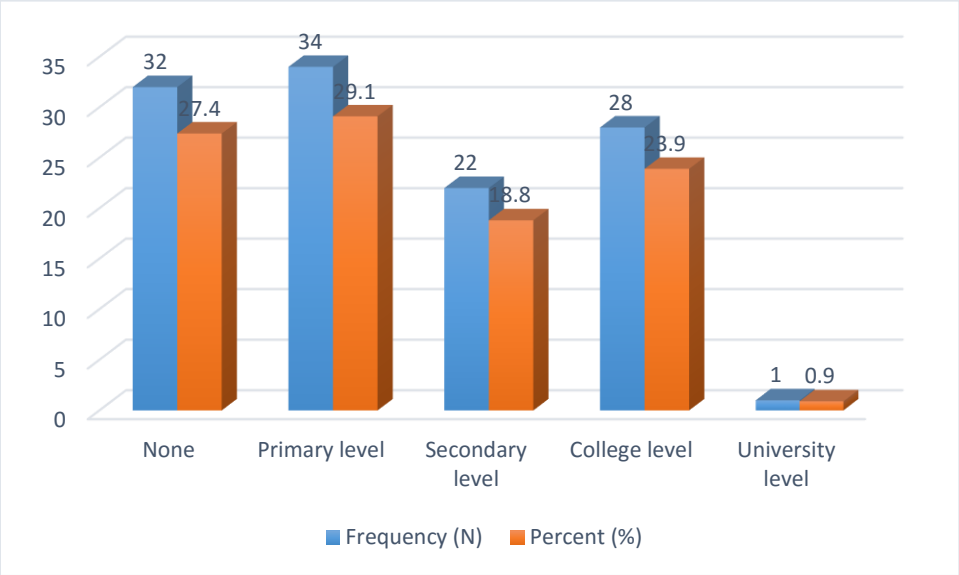


Figure 7: Level of education

4.3.4 Occupation of respondents

An inquiry was made on the occupation of the respondents. The various responses elicited are given in the Table 4.6. The occupations prevalent in the county included the following: Farmer Teaching, Medical doctor, Business, Religious Community leader (chief, village elder) and others occupations

As per the findings in Table 4.6 above majority (67.5%) of the respondents were farmers, 11.1% were teachers, 8.5% were medical doctors, 3.4% were business people, Religious and community leaders composed 0.9% of the respondents each while 7.7% of the respondents were in other occupations not included in the choice options in the questionnaire. This shows that farming was the main economic activity in Tana River County. The farmers encountered were both crop farmers and livestock keepers. Some of the respondents in the category of others were fisher folk who are also affected by the conflicts in Tana River County

Table 4.6: **Occupation of respondents**

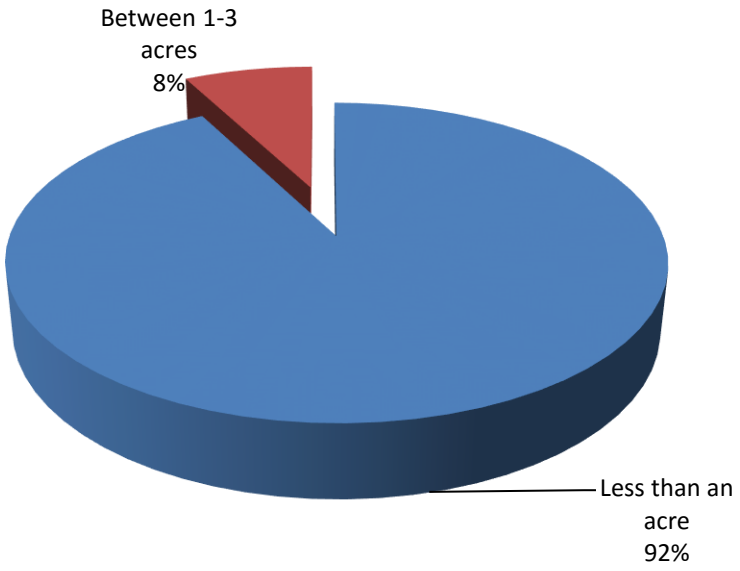
	Frequency (N)	Percent (%)
Farmer	79	67.5
Teacher	13	11.1
Medical doctor	10	8.5
Business	4	3.4
Religious	1	.9
Community leader (chief, village elder)	1	.9
Others	9	7.7
Total	117	100.0

4.3.5 Land Owned by respondents

The respondents were requested to indicate the amount of land they own. The findings are as presented in the Figure 8;

According to the findings in Figure 8, majority (92%) of the respondents in the farming livelihood had less than an acre piece of land while the remaining 8% owned between 1-3 acres of land in Tana River County. This implies that there is farming land scarcity in Tana River County.

Figure 8: Size of land owned by respondents



4.3.6 Level of income per month

The study requested the respondents to indicate their monthly income in Kenya shillings. The findings as depicted in Table 4.7 shows that most (40.2%) of the respondents had income Between Kes. 1000-5000 per month, 27.4% had Between Kes. 5001-15000 level of income, 26.5% Less than Kes. 1000 income per month and only 6.0% of the respondents had Between Kes. 15001 - 30000 level of income. This implies that there are high levels of poverty as majority of the respondents were living below poverty line.

Table 4.7: Income per month

Income	Frequency (N)	Percent (%)
Less than Kes. 1000	31	26.5
Between Kes. 1000-5000	47	40.2
Between Kes. 5001-15000	32	27.4
Between Kes. 15001 -30000	7	6.0
Total	**117**	**100.0**

4.3.7 Marital status of respondents

The study requested the respondents to indicate their Matrimonial status. The presentation in Figure 9 shows what was found.

According to the findings in Figure 9, majority of the respondents were married at 85.5 %, 7.7% were single, and 5.10% were divorced while 1.7% were widowed. This implies that the communities in Tana River County upholds for the institution of marriage. This is attributed to the religious affiliation of the respondents who were both Christians and Muslims.

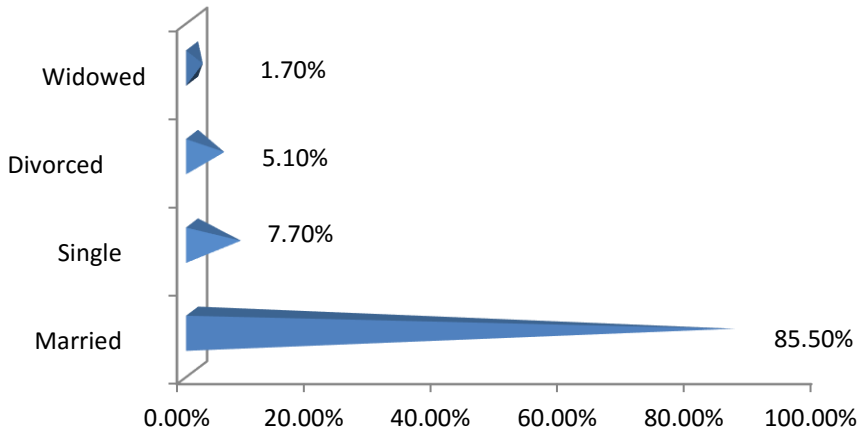


Figure 9: Marital Status of respondents

4.3.8: Household Characteristics

The study requested the respondents to indicate the number of members in the different households. As per the findings in Table 4.8, most (37.5%) of the respondents had a family size of one to three members in their households, 35.1% had 4-6 members, 13.7% had 7-9 members while 10-12 members, per household also represented 13.7% of the respondents each

Table 4.8: Household size

	Frequency (N)	Percent (%)
1-3 members	44	37.5
4 -6 members	41	35.1
7 -9 members	16	13.7
10-12 members	16	13.7
Total	**117**	**100.0**

Further the study required the respondents to indicate the number of grown ups in their households. The results of the inquiry are presented in the Table 4.9.

As per the findings in Table 4.9, 60.6% of the respondents had 1-3grown-ups, 23.9% had 4-6 grownups, 5.2%, had 7-9 Grown-ups and 4.4 % had 10-12 grown-ups. This indicates that most of the households consist of small family units.

Table 4.9: Number of adults per Household

	Frequency (N)	Percent (%)
1-3 Grown ups	71	60.6
4-6 Grown ups	35	23.9
7-9 Grown ups	6	5.2
10-12 Grownups	5	4.4
Total	**117**	**100.0**

The study also requested the respondents to indicate the number of children in the households. The findings are displayed in Table 4.10

As per the findings in Table 4.10, 16.2% had no children, 48.8% of the respondents indicated 1-3 children, and 28.1% had 4-6 children while those with 7-9 children represented 6.9% of the respondents. This data is important because it indicates the chances of the conflict affecting children. 83.9 % of the respondents had children while only 16.2 percent had no children. This means any conflicts which arise in the area has a very high probability of impacting on the welfare of the young children, hence the government and other interested parties should combine efforts to make sure that facilities are put in place to safeguard the interest of the children in the event of any incidence of any conflict

Table 4.10: Children per household

	Frequency(N)	**Percentage (%)**
none	19	16.2
1-3 children	57	48.8
4-6children	33	28.1
7-9 children	8	6.9
Total	**117**	**100.0**

4.4: Source of Income

4.4.1: Livestock ownership

The respondents were asked to indicate whether they owned animals such as donkeys, sheep, chicken, Donkeys, Goats, Cattte, Camels. The results are tabulated in Tables 4.11.

The results shows that most (75.2%) of the interviewees owned livestock and 24.8% indicated otherwise. The presence of domestic animals in more than 75 percent of the households means that there is a need for these households to have pasture for the domesticated animals. Of the 88 respondents who indicated that they owned livestock, 49 respondents indicated that they came from the Orma group while 39 respondents indicated that they were Pokomos. The results from the analysis are illustrated in the figure 10.

The situation is more precarious during the dry spells as the livestock owners try to look for pasture for their animals. This means that the owners of the animals will move out of their traditional homesteads to look for pasture for their animals and in the process venturing into areas of cropland. Maize is usually grown along the river hence prone to livestock damage during the dry spell. This can be averted if the communities could agree to have safe passage of the animals to water sources and also pasture.

Table 4.11: Livestock ownership

Own Livestock	**Frequency**	**Percentage**
Yes	88	75.2
No	29	24.8
Total	117	100.0

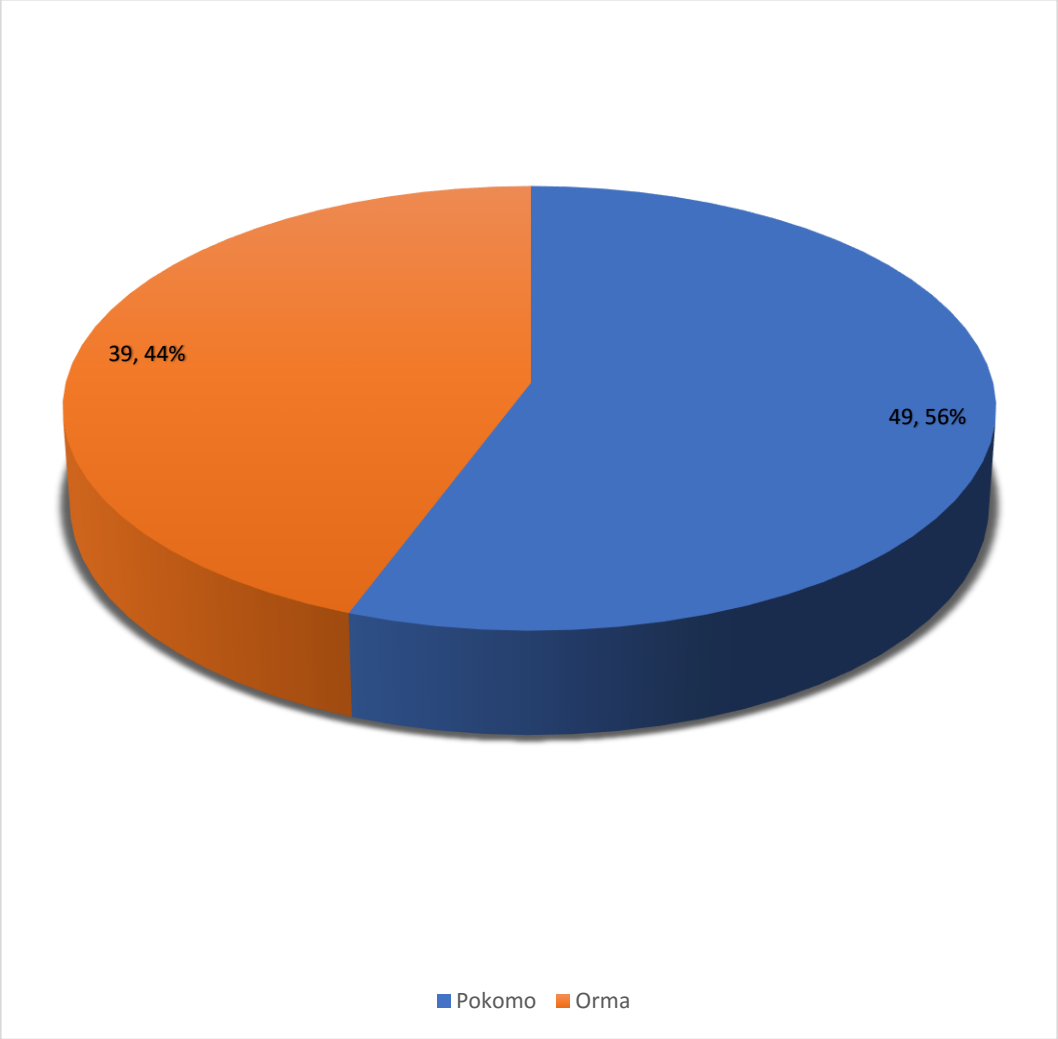


Figure 10: Livestock ownership

4.4.2 Respondents experience

The study inquired about the period of time they have been living in the study area. The time period of their occupancy is illustrated in the Figure 11, and it is evident that, most of the respondnets had lived in the area for 15-20 years, 20% for 10-15 years, 18% for over 20 years, 17% for for 5-10 years and only 3% of the respondents had lived in the area for less than one year.This implies that the respondents had lived in area for long enough to have experienced the different heights of violence in the area.

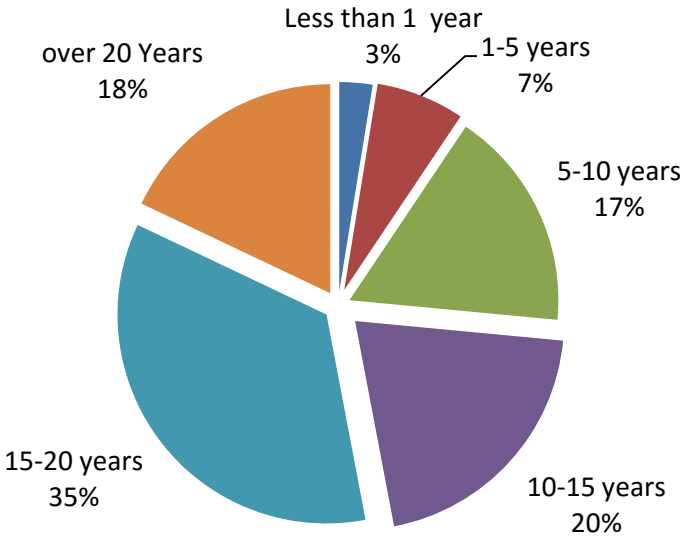


Figure 11: Respondents conflict experience

Futher the respondents were asked to indicate whether they had experienced conflicts and Table 4.12 depicts the responses recorded. According to the findings, 99.1% of the respondents had experienced conflicts.This implies that conflicts are rampant in Tana River County.

Table 4.12: Conflict experince

	Frequency(N)	Percentage (%)
Yes	116	99.1
No	1	.9
Total	**117**	**100.0**

Further the study sought to investiagte the causes of conflicts in the area, the findings in Table 4.13, shows that most (47.8%) of the respondents indicated that Access to pasture lands as main cause of conflicts in Tana River County, 37.4% indicated presence of war, 12.2% indicated land disputes, while 2.6% of the respondents indicated political contest as the causes of conflicts. The findings are consistent with the hypothesis put forward by the researcher that the conflict in Tana River is driven by the contest over natural resources which are mainly water and pasture. The conflicts are seasonal based on the seasonality of rainfall. When the dry spell is prevalent, conflicts are also witnessed

Table 4.13: Causes of conflicts

	Frequency (N)	Percentage (%)
Land dispute	14	12.2
Presence of war	43	37.4
Access to grazing	55	47.8
Political contest	3	2.6

4.4.3 Last conflict encountered

The study requested the respondents to indicate the last time they encountered conflict.The results are tabulated in Table 4.14; As per the findings in the tables, majority (55.6%) of the respondents indicated that the last time they experienced conflict was 3-5 years ago, 21.4% this year, 13.4% last year and 9.4% 5-10 years ago. This indicates that the conflict has been continuing for the last five years .It may occur in isolated places but the cumulative effect has been going on for the last five years and beyond. This continuous conflict has had serious impact on education, access to health services and access to food, with the general impact of very low development indices in the county.

Table 4.14: Last conflict encountered

	Frequency (N)	Percent (%)
This year	25	21.4
Last year	16	13.7
3-5 years ago	65	55.6
5-10 years ago	11	9.4
Total	**117**	**100.0**

4.4.4 Conflict factors

The study requested the respondents to indicate the conflict factors. The conflict factors included the following factors: land tenure, minimum security presence and divergent land use requirements.The results for each factor are tabulated in Table 4.15 showing that , 81.2% and 73.5% of the respondnent indicated that land tenure and minimum security presence respectively did not act as a conflict factor while 65.8% of the respondents indicated that divergent land needs as conflict factor.

Table 4.15: Immediate conflict factors

Factor	Frequency		Percentage	
	YES	NO	%YES	% NO
Land tenure	22	95	18.8	81.2
Minimum security presence	31	86	26.5	73.5

Divergent land needs	77	40	65.8	34.2

4.4.5 Proximate conflict factors

The proximate conflict factors include, negative ethnicity, armed Communities, Clash for water resources, unemployment, Proliferation of small and light arms, historical injustices and existence of armed gangs. Each proximate conflict factor was analyzed to know its role as a conflict factor in Tana River County. According to the results tabulated in Tables 4.16, it shows that 88% of the respondents indicated that Negative Ethnicity was the major Proximate Conflict Factor, 86.3% indicated that presence of armed communities was not a factor, 66.7% indicate that Clash for water resources was the second most important proximate conflict factor. The findings further shows that 77.8% of the respondents indiacted that unemployment, Ploriferation of small and light arms and historical injustices each were not proximate conflict factors and 88.9% of the respondents indicated that Exsistance of armed gangs was not a proximate conflict factor. This shows that all the all the seven proximate conflict factors played a role in the conflict obtaining in tana river county but to varying degrees from as low as 12 % to as high as 88 % . The two major proximate conflict factors being negative etnicity and clash over water. The negative ethnicity which has turned out to be the major couse of conflict has not been highlighted in most literature, hence this study could have unearthed the cause which had elided many researchers in this field and could be the remedy that had eluded most.

Table 4. 16: Proximate conflict factors

Factor	Frequency		Percentage	
	YES	NO	%YES	% NO
Negative ethnicity	103	14	88.0	12.0
Armed communities	16	101	13.7	86.3
Conflict over water resources	78	39	66.7	33.3
Unemployment	26	91	22.2	77.8
proliferation of small arms	26	91	22.2	77.8
Historical injustices	26	91	22.2	77.8
Existence of armed gangs	13	104	11.1	88.9

4.4.6 Triggers of conflict

Conflicts may exist in latent form only to explode when certain threshold is reached or when certain events occur. These are referred to as triggers. It can be likened to the last straw that broke the camel's back. The possible triggers that were analyzed for the conflict in Tana River County included the following: Migration during dry spell and Politics

The study requested the respondents to indicate the triggers of conflict in Tana River County. The results are tabulated in Table 4.17 which shows that, majority (97.4%) of the respondents indicated

that Migration during dry spell was a trigger of conflicts while 84.6% indicated that politics was not a trigger of conflicts. Livestock migration during the dry spells is the main triger of the conflicts, though politics is rated low as a trigger of conflicts at 15.4 %, this issue is known to be cyclical five year phenomenon depending on who wins the race for politivcal seats. The stakes have been upped by brthe creation of the all powefull seat of the Governor where all the tribes try bto maje alliances and shatre aout seats to the exclusion of some tribes. The small tribes seems to be playing a king maker role and are usually the victims in such political contests. In the current political arrangement, the orma are contended because they swept almost all the political seats to the exclusion of the pokomo who have now adopted a wait and see stance and are strategizing to redeem all the seats . If their ambition is not met, the worst of clashes may follow. If their plan goes through the loosing team will certainly take up arms in abid to protest what is usually refered to as a stolen election. Kenyan politicians are not used to loosing elections. Even when elcetion has been declared free and fair by international observers , somebody somewhere will still feel agreeved . This could be due to the lost money used to influence voters. This may lead to nasty confrontaion when a winner is declared followed by protracted court cases which usualy end in serious confrotation between the supporters of the candidates.

Table 4. 17: Conflict triggers

Factor	**Frequency**		**Percentage**	
	YES	**NO**	**%YES**	**% NO**
Migration during dry spell	114	3	97.4	2.6
Politics	18	99	15.4	84.6

4.5. Resource based conflict resolution

The study sought to investigate whether there was any historical agreement on use of resources in the Tana River County. The results are tabulated in Table 4.18,showing that, 68.4% of the respondents indicated that there was historical agreement on using the resources in the Tana River County and 31.6% indicated that there was no agreements on using resources. Further the study asked the respondents to give eaxmples on the historical agreements on using resources.The respondets cited agreements on Allocation of land for farming, demarcation of malkas and grazzing on maize stover after harvest.

To avert conflicts, it may require that agreements are drawn between the combatants on when and how to use the resources. Where there are no agreements, each party will try to maximize the utility of the resource, hence denying the other party the use of the same resources. This may lead to what is called the tragedy off the commons, this will lead to resource degradation to the extent that the contesting parties will not benefit from it, hence it becomes a lose - lose situation. To achieve a win -win situation the two contesting parties should agree to manage the resource for sustainable use.

Table 4.18: Agreement on using resources

	Frequency (N)	Percent (%)
Yes	80	68.4
No	37	31.6
Total	**117**	**100.0**

4.6 Coping with conflicts

When conflicts occur, there are many coping mechanisms to reduce the extent and the impacts of the conflict. The mechanisms may include: provision of relief food by Government and other development partners, peace talks, engaging in alternative livelihoods which reduce conflicts over resources or relocation to other areas away from the theatre of conflicts. In Tana River the affected people usually relocate to major towns like Malindi, Mombasa and even Garissa (GOK, 2011) however the main refuge has been the major town centers within the county like Hola and Garsen.

The study sought to investigate how people cope with conflicts in the Tana River County. 86.3% of the respondents indicated that relief food was not a method of coping with conflicts in Tana River County, 96.6% indicated that peace talks was a method of coping with conflicts, 88.9% of the respondents indicated that Alternative Livelihood was not a way of coping with conflicts while 88% indicated that relocation was not a way of dealing with conlicts. It is evident that the copping mechainsims enumarated above were used to varying extent. The most popular one being the peace talks at 96.6%, followed by relief food at 13.7% , relocation at 12% and alternative livelihood at 11.1%. peace talks were spearheaded by Government ,faithbased organizations and development

partners. Relief food is also distributed through the same institutions. Relocation of affected individuals has been supported bty the Kenya red cross, faith based organizations and other development partners, provision of alternative livelihoods has been speaheaded by government ,faith based organizations and other development partners. The option that has been tried by the ministry of Agriculture, livestock and Fisheries is on the use of irrigation ,working together with the National Irrigation Board (NIB) and setting up of green houses.the intensive use of land will free land for other uses including pasture production ,hence minimizing contact between the farmers and the pastoral communities.

4.6 Effects of conflicts

The respondents were asked if they had been affected by the conflict and whether they were affected directly or indirectly. The study requested the respondents to indicate how they are affected by the conflicts. The results are shown in Table 4.19. It shows that a major parcentage (57.3%) of the interviewees had been indirectly affected by conflicts, 38.5% were affected directly and only 4.3% of the respondents indicated that they were not affected at all by the conflicts. Tana River County are affected by the conflict, some are affected directly while others are affected indirectly

Table 4.19 Effect of Conflict

	Frequency (N)	Percent (%)
Affected directly	45	38.5
Affected indirectly	67	57.3
Not affected at all	5	4.3
Total	**117**	**100**

4.6.1 Socio-economic impacts

The study further sought to investigate the impacts that natural resource based conflicts had on crop farming. The parameters analyzed included : Reduced farming activity,crop theft, lack of access to markets, produce wastage, crop land being abandoned. The results are shown in table 4.20. According to the findings ,the majority (77.8%) of the respondents indicated that natural resource based conflicts in Tana River county led to reduced farming activity, 53% indicated that there was crop theft, 12% indicated that there was lack of access to markets, 50.45% indicated that there was Rotting of Produce in the Farms while 96.6% of the respondents indicated that crop land was abandoned.all these factors have a combinrd effect of reducing access to safe and nutritious food, hence excerbabating the already bad situation interms of food security. In times of conflict the cost of essential food items sky rockets and it is the vulnerable menmbers of the society ,who happen to be women and children are affected most.

Table 4. 20: Economic impact on crop farming

Factor	Frequency		Percentage	
	YES	NO	%YES	% NO
Reduced farming activity	91	26	77.8	22.2
Crop theft	62	55	53	47.0
Lack of access to the markets	14	103	12	88.0
Rotting of produce in the farms	59	58	50.4	49.6
Crop land is abandoned	113	4	96.6	3.4

4.6.2 Livestock farming

The study further sought to investigate the impacts of the natural resource based conflicts in Tana River county on livestock farming . The parameters analyzed included : impacts on livestock marketing ,impacts on grazing land, small arms trade , Overgrazing and destruction of biodiversity . The results are shown in Table 4.21; According to the findings , majority (88%) of the respondents indicated that there was no collapse of livestock marketing, 94% indicated that grazing land was Abandoned, 93.2% indicated that Small arms trade did not increase, 80.3% indicated that there was overgrazing in safer grounds while 94% of the respondents indicated that there was destruction of biodiversity. Most of the parameters indicated increased trend apart but the study revealed that livestock marlets will continue unabaeted despitethe conflict. This could be true but the livestock owner will have por terms of trade since the animals will be sold at very loew prices.the issue of small arms is reported not to increase. This is partly because the combatants will have acquired

the arms early enough before the conflict ,such that during the conflict they will put the arms to use.

Table 4.21: impact on livestock production

Factor	**Frequency**		**Percentage**	
	YES	**NO**	**%YES**	**% NO**
Livestock marketing	14	103	12	88
Abandoned grazing land	110	7	94.0	6
Overgrazing	94	23	80.3	19.7
Destruction of biodiversity	110	7	94.0	6.0
Small arms trade increases	8	109	6.8	93.2

4.6.3: Livestock Production statistics

The study sought to establish the trends in livestock production since 2006. The results from the analysis of findings are illustrated in figure 12. From the analysis of data from the Ministry of Agriculture livestock and fisheries, it is noted that there was stable increase in beef, hair sheep and meat goat upto 2012 when there was a sharp increse in beef animals and goats,followed by a sharp decrease in 2015. This is attributed to influx of animals from the neighbouring counties into the delta ,which led to serious skirmishes in 2012 and 2013.When the animals from mainly the somali community were taken back, abit of stability was realised.The study thus inferred that livestock production was significantly influenced by the conflict.The impact is in the inreased numbers which later causes land degradation and loss of biodiversity.

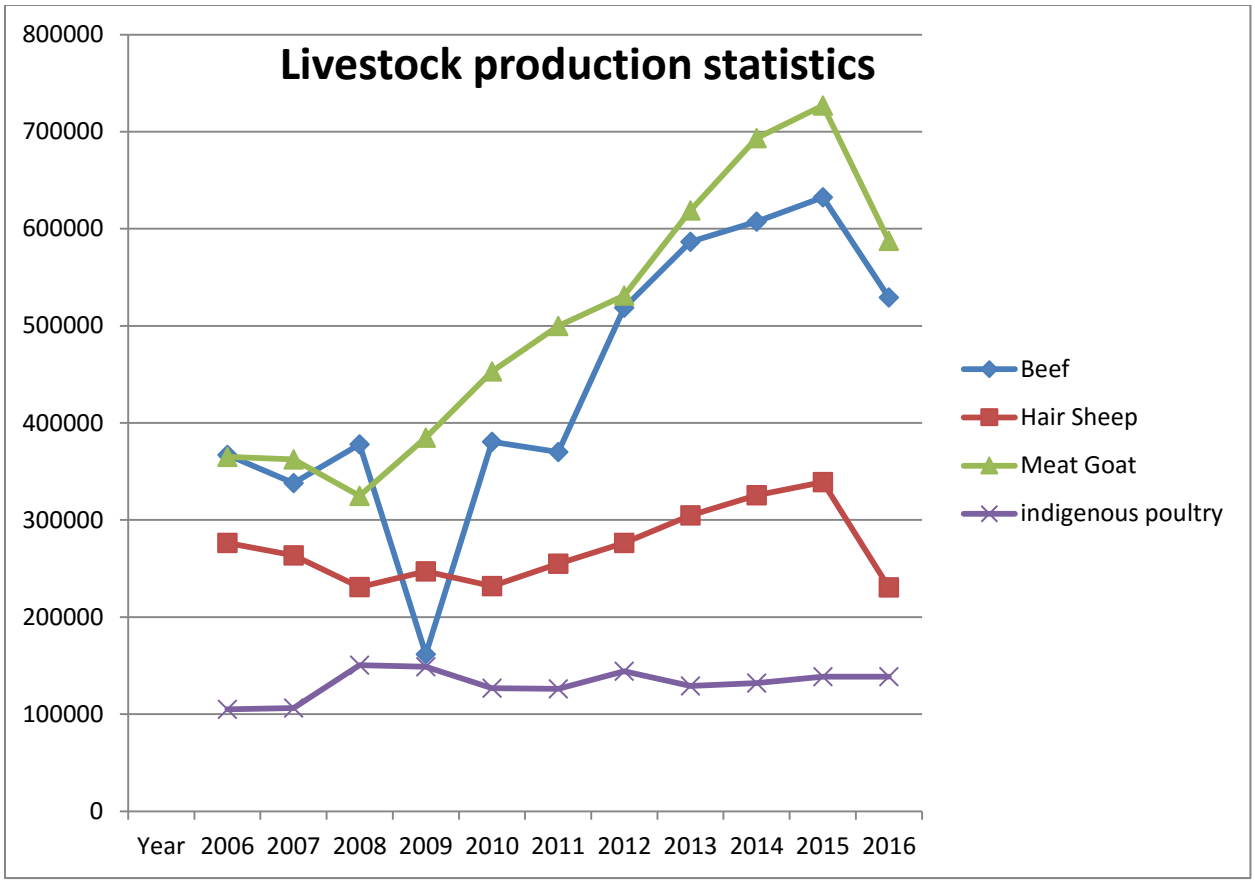


Figure 12: Livestock production statistics, Source: (Ministry of Agriculture,2018)

Available data from redcross depicted in figure 13 below,indicated that during one of the major conflicts that took place between August and September 2012 a total of 458 cattle were lost and 600 goats were lost. In the same period, 668 houses were burnt down ,hence displacing 2001 households with a population of 12,006 being affected. This occasioned a major humanitarian crisis which had to be mitigated using millions of shillings which could have gone into other developmental activities.This incident exemplifies the economic loses which the natural resource based conflict can bring to the community.this is also explained by the seasonality of pasture availability , appendix v

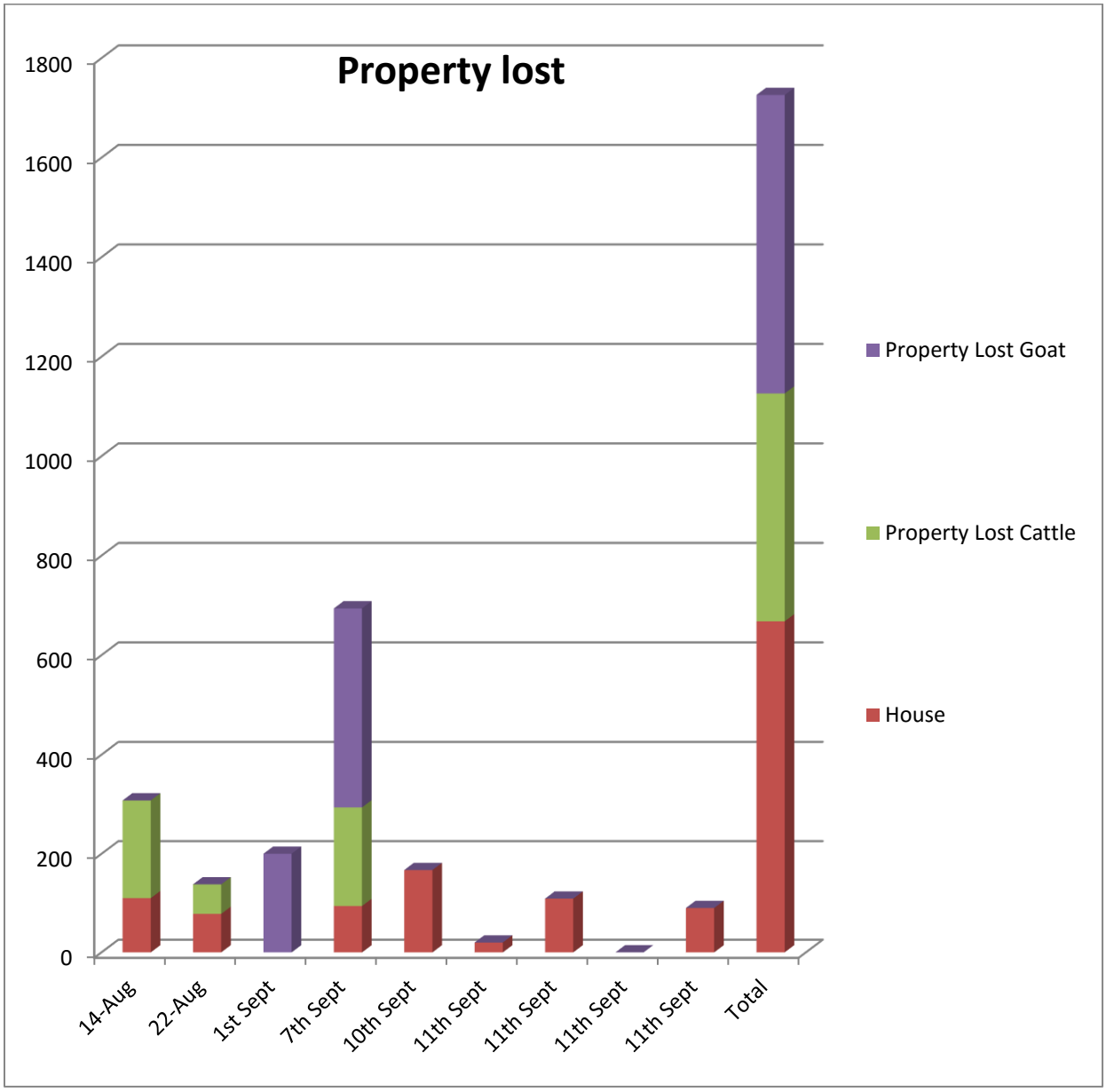


Figure 13: property lost as a result of conflict

Source: Red Cross

4.6.4: Combined crop production since 1990

The study sought to establish the trend in crop production since 1990. The results from the analysis of findings are illustrated in the figure 14. From the analysis of data from the Ministry of Agriculture Livestock and fisheries, it's noted that there was stable but low crop production since 1990. However, between 1999 and 2002, there was a sharp increase in the production maize, green grams, rice, yellow grams and cassava, this later reduced sharply at the end of 2002 and the beginning of 2003. The stability is seen again until 2007. The study thus inferred that crop production was significantly influenced by the elections period also synonymous with years of conflict and thus political stability at Tana River significantly influenced crop production in the region.

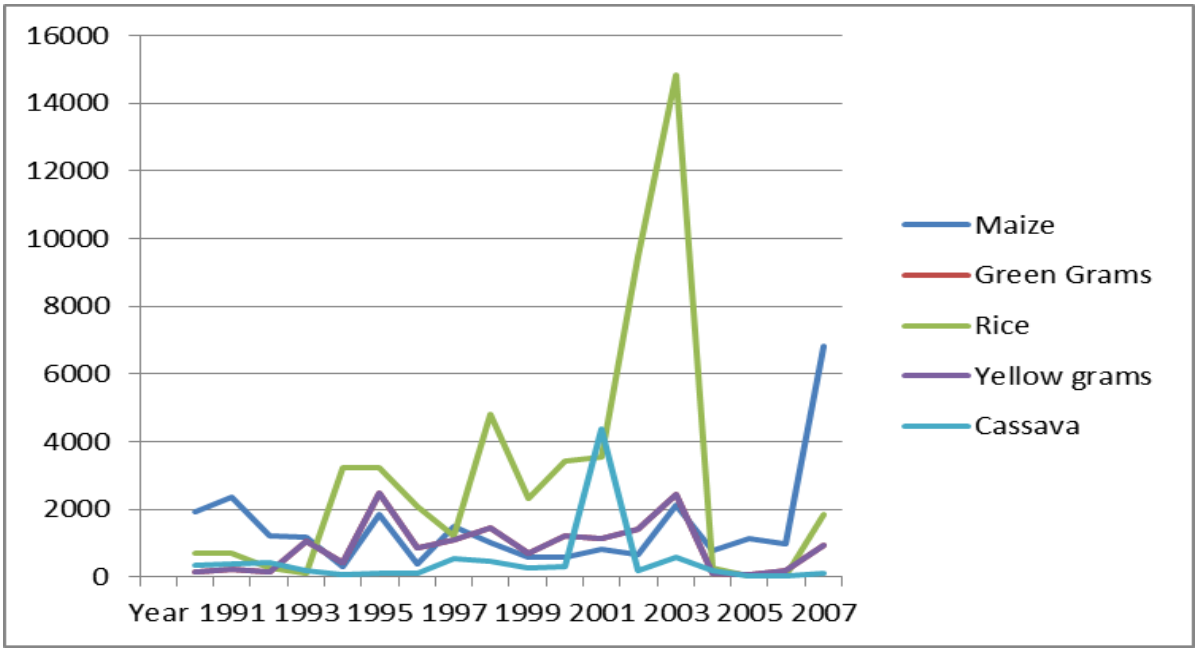


Figure 14: Crop production statistics

Source: Ministry of agriculture

The findings from the time series data shown in figure 15, it indicate that the stability in the political climate in the region had a significant influence on the production of key crops in the region.

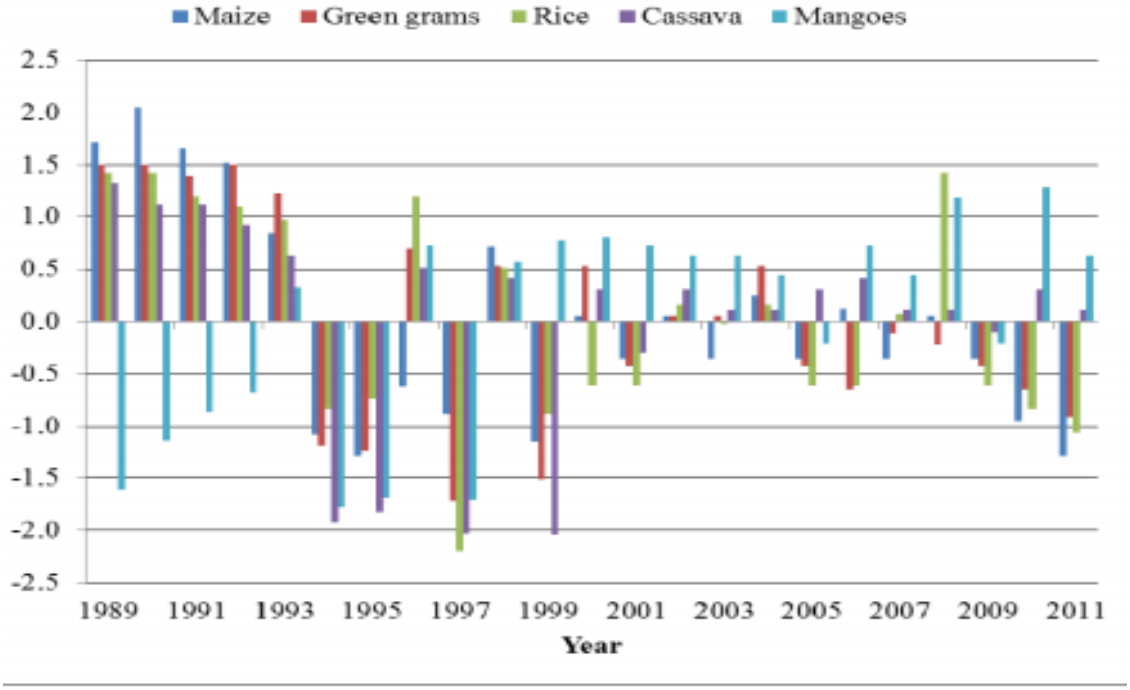


Figure 15: Time Series yield Anomaly for key food crops

4.6.5 Effects of conflict on education

To understand the effects of natural resource-based conflict on education, the following factors were analyzed: Closure of schools, levels of enrolment in the existing schools and teachers relocating to safer places .The results shown in Tables 4.22 indicate that , 100% of the respondents indicated that there was closure of schools and low enrolement in the existing schools and 71.8% of the respondents indicated that teachers relocated to safer places. For the safety of both the students and the teachers , it is adviseable that the schools are closed diurinhg times of c onflict.this

will adversely affect the school callender and the overall levels of education in the county. The impact will depend on the length of school closure. The conflicts have led to flight of teachers to safer areas ,especially the non local teachers who could improve the performance of the students in certain subjects like English , Kiswahili and Maths.Tana river has consistently ranked among the last in education performance nationaly due to the combined efect of school closure and low teacher population in the county.

Also education is affected because the attendance in primary school and enrolment in secondary school were observed to be declining. For example, in Tana River, it was established that between 1994 and 2002 only 36.6% of primary school age children were in school, the reason being traced to lack of security and the attendant poverty in the county. This was also felt at secondary school level where enrolment was mere 14.32 % of those eligible were enrolled (Adan & Pkalya ,2005).

Table 4. 22 : Effects of conflict on education

Impact	**Frequency**		**Percentage**	
	YES	**N**	**%YES**	**% NO**
Closure of schools	117	0	100	0
Low enrolment in schools	117	0	100	0
Teacher relocation	91	26	78.8	22.2

4.6.6 Effects of conflict on health

Access to health is a basic human right. In times of conflict, this vital social good is compromised. To understand the effects of natural resource-based conflict on health service provision in Tana River County, the following factors were considered: human and livestock diseases, increased reports of injured people in the local health centers, Closure of Health Facilities, Flight of health Personnel, and Withdrawal of health Personnel

The study sought to investigate the impacts that the natural resource based conflicts had on health. According to the findings shown in Tables 4.23 it is evident that , 7.7% of the respondents indicated that there was Increased human diseases, 6.8% indicated there was closure of health facilities and flight of health personnel each, 97.4% indicated that there was increased reports of injured people in the local health centres while 24.8% of the respondents indicated that there was withdrawal of health personnel. The flight of health personnel is a situation where the individual assesses the situation and move to safer ground on his own. This is usually a precautionary move, but the government usually gives an impression that all is well on the ground and asks all the government employees to continue giving service. On instances where the situation is really bad the government and the employees union may decide to withdraw the services of the health personnel until the situation normalizes the majority of respondents felt that there was no closure of health facilities ,noflight of health personnel and no withdrawal of health personnel because most of the health cemtres are vilage based and are manned by local people so in times of conflict, the health centres may continue offering services and receiving local combatantas who have been injured in the conflict but the few non local Heath personnel will have long gone.

Table 4.23: Impacts of conflict on health

Impact	Frequency		Percentage	
	YES	NO	%YES	% NO
Increased human diseases	9	108	7.7	92.3
Increase in victims in local health facilities	114	3	97.4	2.6
Flight of health personnel	8	109	6.8	93.2
Withdrawal of health personnel	29	88	24.8	75.2

4.6.7 Health coverage

The study found out that 79.31% of the hospitals in the county are public and are government owned. It was established that the ratio of Doctor to population is 1:15,000 and 29 people of every 10,000 population in Tana River have TB lower than the national count of 39 ranked 23/47. Further 1.3% of the population is HIV + ante- natal care patients ranked 6/47 and 2.4% lower than the national population on care. The HIV prevalence in the county is 2% lower than the national HIV prevalence of 6.1%. While 66.7% fully immunized children (0 – 60 months) is below the average national fully immunized population of 83.0%.The study found out that 22.6 % delivered in health center compared to the national average of 37.5 and that 20.4 % received qualified medical assistance during birth compared to the national average of 37.6 (KIRA, 2014)

It is evident that Tana River County is below national average in most of the health indicators and one of the contributing factors is that of conflict as shown in table 4.24

Table 4.24: Health coverage

Health coverage	**Tana river**	**Kenya**
Malaria as a % of all first outpatient visit	39.5	27.5
TB in every 10,000 people	29	23
HIV+ antenatal care clients %	1.3	5.9
Delivered in health center	22.6	37.5
Qualified medical assistance during birth	20.4	37.6

Source: (KIRA, 2014)

During the conflict which took place from august 2012 to september 2013,the folowing data was recorded by red cross as shown in figure 16.

The total fatalities were 116 of which 51 were males,43 were female and 22 were children.The total number of the caasualties in the period were 49.These figures reinforces the fact that the major casualties in the natural resource based conflicts are children amd women yet they do not play an active role in the conflict. The report shows that 43.9 percent of the fatalities were on males while that on women and children represented 51.6 percent.

In their study of the Irag conflict Alvarez-Ramirez et al, 2010 said that fatalities pattern over time derives from the way the insurgency is structured.The assumption is that a truly random behavior implies that there is not a strongly organized insurgency. Rather, insurgency groups are scattered, loosely connected and poorly coordinated in their actions. On the contrary, a trend reinforcing behavior implies the presence of a well-structured resistance. Paradoxically, this last case, although in the immediate, much more harmful, is preferable. In fact, a well-structured resistance is more easily countered and dismantled, whereas a loosely organized resistance is less harmful in the immediate, but it can endure over time resulting at the end to be more dangerous.This scenario is exhibited when time series offers anextended time memory and it implies that there is a positive relationship amongst an event under consideration and the other events that preceeded them. The meaning of this is that if the observed time series properties have been decreasing, then there is a high probability that the in the short time afterward a decrease will be observed and vice versa. This is referred to as persistence. If the correlation is negative thenwhen the value increase we suppose it to decrease in the subsequent future (Alvarez Ramirez et.al, 2010). This is refered to as anti-persistence, a situation that happens with wide fluctuations much more than would occur by chance.

In the study of the time series of the fatalities, the Hurst exponent, H, is used.this exponent is an measure of long-term dependency.Quantitatively we have three distinct scenarios:

The first scenario is defined as $0<H<0.5$: this is a time series with autocorrelation which are negative, hence an upsurge of values will possibly be followed with a reduction and vice versa, resulting extensive fluctuations;

The second scenario is defined by 0.5<H<1: This is time series with long-standing autocorrelation which are positive, hence a series of values which are increasing will probably be trailed by a which is value increasing, giving rise to to a trend supporting behavior;

The third scenario is is defined by H=0.5: this depicts a truly random occurrence,meaning that the current occurrence has no memmorry of the preceeding occurences (Giorgio, 2012)

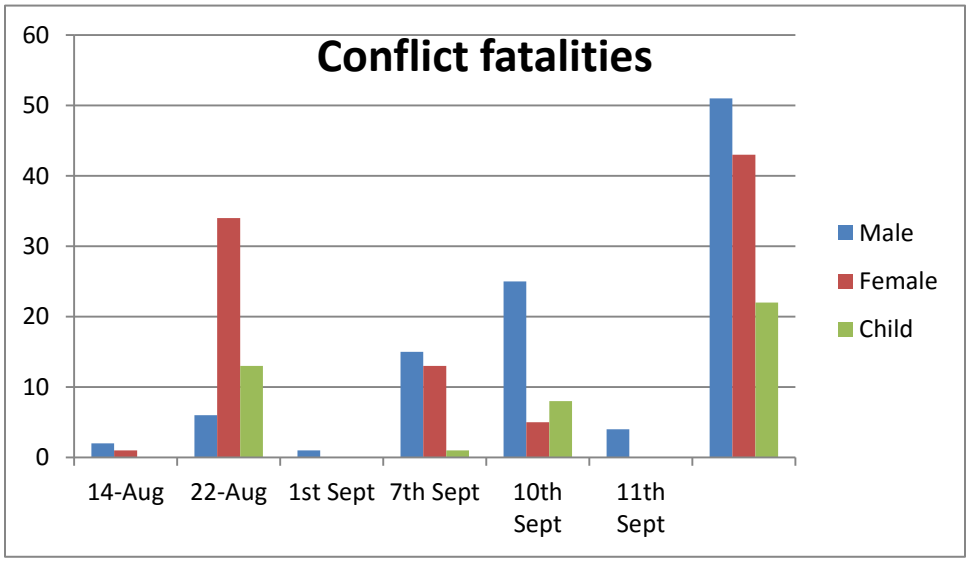


Figure 16: Conflict fatalities

Source: (Red Cross, 2013)

4.6.8: Restitution /rehabilitation of victims

The study further sought to investigate the ways in which conflict in Tana river county was managed and how victims were rehabilitated. The factors considered were: Restocking, Disarming youth, Indroduction of modern farming, rehabilitation of irrigation schemes, Peace building among the communities and settling the conflicts in Courts.

According to the findings in Tables 4.25, 22.2 % of te respondents agreed that restocking was a way of restitution aftr conflicts while 77.8% of the respondents indicated that Restocking was not an option for resolving and rehabilitation after conflicts in Tana River County.The study found out that 100% of the respondents indicated that disarming the youth was not a way in which conflicts in Tana River County were managed and rehabilitating the victims,.in fact they believe that the more armed they are the more secure they will become. They believe that Any disarmament will predispose them to attacks from neighbouring communities.

The study shows that 11.1% of the respondents agreed that introduction of modern farming techniques is an option for restituin tion after conflicts while 88.9% indicated that Indroduction of modern farming was not a way in which conflicts in Tana River County were managed and rehabilitating the victims. Majority of the respondents fel that they should continue with the type of farmuing they are accustomed to.

Rehabilitaion of irrigation schenes was favoured by 24.8 % of the respondents while 75.2% indicated that Rehabilitate irrigation schemes was not a way in which conflicts in Tana River County were managed and rehabilitating the victims. It was found that 100% indiacted that peace building among the communities was used as a way in which conflicts were managed and rehabilitating the victims. This was the option that was unanimaously supported by all the respondents. It means that this option should be aggressively persued by the government and other development partbners so that continous dialogue nis encouraged and supported amongst the communities. Joint activities at all age groups should be encouraged and supported especially amomngst the youth. Council of elders from both communities should also be encourahrd to have

joint discussion with the supervision of neutral stakeholders like Kenya redcross so that amicable sollutions are persued for continued co-existance of the communities.

The study found out 16.2 % of the respondents agreed to settlement of the conflicts in courts of law while 83.8% of the respondents did not support the idea of settling disputes and rehabilitating the victims in courts. This clearly indicates that the majority of the residents do not have confidence in the courts of law on matters to do with the natural resources-based conflicts in Tana River County.

Table 4.25: Restitution of victims

Restitution Mechanism	Frequency		Percentage	
	YES	**NO**	**%YES**	**% NO**
restocking	26	91	22.2	77.8
Disarmament of Youth	117	0	100	0
Introduction of modern farming	13	104	11.1	88.9
Rehabilitation of irrigation schemes	29	88	24.8	75.2
Court settlement	19	98	16.2	83.8

4.6.9 The Somalia link in the Tana River conflicts

The study sought to look at the bigger picture in this conflict by analyzing other forces outside the conflict arena. It analyzed the following factors: Limited Grazing Land, Availability of Small and

light arms, insecurity in the forests where pastoralists grazed, recruitment of local youths into the armed conflicts, in migration of herders from Somalia

The respondents were requested to indicate whether the conflict in Somali had influence on the conflict dynamic in Tana River county. The results are tabulated in Table 4.26.

Table 4.26: The Somali link

	Frequency (N)	**Percent (%)**
Yes	64	54.7
No	53	45.3
Total	**117**	**100.0**

Further the study sought to understand how the conflict in Somalia has influenced the conflict dynamic in Tana River county. According to the findings in Tables 4.27 , 15.6 of the respondents agrreed that there has been limited grazing while 84.4 % of the respondents indicated that the Grazing Land was not Limited.The study revealed that 21.9 % of the respondents that small and light arms are readily available in the county as a result of instability in Somalia ,while 78.1% indicated that Small and Light Arms were not availlable.

The study found out that 20.3 % of the respondents agree that the there has been insecurity in the forests where pastoralists used to graze their animals ,hence limiting their access ,while 79.7% indicated that Insecurity in the forests where pastoralists used to graze their animals during dry season was not there.the binsecurity in the forest will force the pastoralists to stay longer in the

delta area hence increasing chances of conflict with the farming community and the attndant destruction of the biodiversity of the delta.

Further ,the study found out that 34.4 % of the respondents agreed that there was immigration of somali herders as a result of war in somali while 65.6 % did not agree to this fact. This immigration of Somali herderds will further fuel the conflict due to even stiffer competion for the scarce resouces in the county. The study found out that 46.9% of the respondents agreed that recruitment of Local youths into the armed conflicts was in existence while 34.4% of the respondents indicated that there was no recruitment of local youth into armed conflict in the neighbouring country. If it is trie that this recruiment is going on, then the level of sophistication of the youth ids unprecendended such that with little provacation, the conflict can escalate into full fleged combat with seroius consequences.

Table 4.27: Impact of the Somali conflict on the study area

Impact	Frequency		Percentage	
	YES	NO	%YES	% NO
Limited Grazing land	10	54	15.6	84.4
Availability of small and light arms	14	50	21.9	78.1
Insecurity in the forests where they grazed their animals	13	51	20.3	79.7
Recruitment of local youth into the armed conflict	30	34	46.9	53.1
Infiltration of herders from Somali	22	42	34.4	65.6

4.6.10 Land Allocation for Investment

This phenomenon is popularly known as land grab in Tana River County.To understand this phenomenon and its role in natural resouce based conflicts in Tana river county, the following factors were analyzed:Land allocation for investment,land allocation to outsiders,lack of traditional dry season grazing fields,closure of livestock corridors and conflicts arising from unemployment opportunities

The study requested the respondents to indicate whether the land allocation for investmnet had any impact on conflict dynamic in the Tana River county. According to the findings in Table 4.28 75.2% of the respondents indicated that the land allocation for investmnet had impact on conflict dynamic in the Tana River county while 24.8% indicated otherwise.

Table 4.28: Land allocation for investment

	Frequency (N)	**Percent (%)**
Yes	88	75.2
No	29	24.8
Total	**117**	**100.0**

Further, for those who had positive response on the land allocation for investmnet were required to indicate how this affected them. The results are tabulated in Table 4.29. According to the study, 100 % of the respondents indicated that Land allocation to outsiders, Lack of traditional dry season grazing fields, Closure of livestock corridors had no effects on the conflict dynamic in Tana River County while 3.4 % of the resapondents indicated that Conflicts arising from employment opportunities was an effect of land allocation for investment in Tana River County. Further 96.6% of the respondents disagreed that there was any conflict arising from employment opportunities in the lands allocataed for investment. Most of the investments like the irrigation farms require skilled labour which is usually sourced from ourside the county the unskilled labour is usualy sourced from within the county and this has been working well . This scenario will change with time as the locals also aquire skills and hence demand the jobs which hitherto were held by immigrants.

The investors should take this into consideration so that as they employ , they should also mentor local talent who will take over the reigns of leadership in the various invesments for peaceful coexistence with the local population. They should also consider preserving water points and dry

season pasture land for thre pastoral community as well as reserving some access corridors to these resources.

Table 4.29: Effects of investment opportunities

	Frequency (N)	**Percent (%)**
Yes	4	3.4
No	84	96.6
Total	**88**	**100.0**

4.7 The Rationale, Motives and aims of conflicts in the study area

4.7.1 **Causes of and reasons for recent conflicts**

The respondents were asked to indicate rating of the causes of and the reasons for the latest conflict they witnessed. The answers were put on a Likert scale with five grades stretching from 1 which denoted not significant to 5 which denoted very significant. The Standard deviation was calculated as an indication of dispersion from the mean. From the findings in Table 4.30 rated Natural resources (Mean=4.0769) as the main cause and reason for the latest conflict they witnessed, Revenge (Mean=2.6667) rated as a neautral factor while Hatred (Mean=2.2051), Pure violence (Mean=2.1538), Displacement (Mean=2.0855), Provocation (Mean=1.8547), Defence (Mean= 1.8547) and Intimidation (Mean=1.5212) were rated as of litle importance as causes and reasons for conflicts in Tana River County.

Table 4.30: Causes and reasons for the latest conflict witnessed

	Mean	**Standard Deviation**
Natural resources	4.0769	1.69255
Revenge	2.6667	1.82889
Hatred	2.2051	1.51167
Pure violence	2.1538	1.51780
Displacement	2.0855	1.38073
Provocation	1.8547	1.46373
Defence	1.8547	1.46373
Creating an enemy	1.5214	1.20056
Intimidation	1.5212	0.92418

4.7.2: Community aims of involment in the last conflict

The respondents were asked to indicate rating of the aims of the community involment in the last conflict. The answers were put on a Likert scale with five grades stretching from 1 which denoted not significant to 5 which denoted very significant. The Standard deviation was calculated as an indication of dispersion from the mean. From the findings in Table 4.31, it rated stopping opponents from destroying their livelihood (Mean=4.7094) as very important aim of involment in the last conflict, while most respondents rated Displacing them from the delta (Mean=2.2991) and showing their opponets their strength (Mean=1.9487) as aims of little importance while respondents rated Gain of political power (Mean=1.4701), Unification of our community

(Mean=1.2906) and Intimidation of the other group (Mean=1.2735) as aims of no importance at all for the community involment in the last conflict.

Table 4.31: Community objectives for involment in the last conflict

	Mean	**Standard Deviation**
Stop them destroying our livelihood	4.7094	0.97432
Displacing thefrom the delta	2.2991	1.58258
To show them our strength	1.9487	1.62335
Gain of political power	1.4701	1.22173
Unification of our community	1.2906	1.01760
Intimidation of the other group	1.2735	0.95253

4.7.3: Opponent aims of involvement in the last conflict

The respondents were asked to indicate rating of the aims of the opponents involment in the last conflict. The answers were put on a Likert scale with five grades stretching from 1 which denoted not significant to 5 which denoted very significant. The Standard deviation was calculated as an indication of dispersion from the mean.

From the findings in Table 4.32 rated Displacing them from the delta (Mean=2.4017), Gain of political power (Mean=2.2564), protecting their livelihood (Mean=1.8718) and showing the community their strength (Mean=1.7521) were rated as aims of little importance of the others involvenment in the last conflict while Intimidation of the other group (Mean=1.3333) and Unification of our community (Mean=1.1709) were rated as aims of no importance of others

involvement in latest conflicts. Using an open ended question the study sought to investigate Whether clashes were started by a community or an individual. Most of the respondents indicated that the clashes were started by communities while others indicated that clashes were started by individuals.

Table 4.32**: Opponent's aims of involment in the last conflict**

	Mean	**Standard Deviation**
Displacing them from the delta	2.4017	1.63507
Gain of political power	2.2564	1.40905
Stop them destroying our livelihood	1.8718	1.64284
To show them our strength	1.7521	1.51945
Intimidation of the other group	1.3333	1.08278
Unification of our community	1.1709	.81252

4.7.4: Correlation matrix between rationale, motives, aims and conflict resolution

Table 4.33: Correlation matrix-rationale

The study used correlation analysis to establish the association between the rationale, motives and aims on conflict resolution with data in table 4.33. Two-tailed Pearson correlation (R) was used to establish the same at 99% confidence level. From the results, Rationale, Motives and Aims had a correlation coefficient (r= 0.524, p=.000) with conflict resolution. This depicts a strong positive linear relationship between rationale, motives, Aims and Resolution of conflict in Tana River

		Rationale, Motives and Aims	Conflict Resolution
Rationale motives Aims	Pearson correlation	1	.524**
	Sig. (2-tailed)		.000
	N	114	114
Conflict Resolution	Pearson Correlation	.524**	1
	Sig. (2-tailed)	.000	
	N	114	114

**. Correlation is significant at the 0.01 level (2-tailed).

4.7.5: Model Summary on the effects of rationale, motives, Aims on Resolution of conflict

Table 4.34: rationale, motives, aims on resolution of conflict -model summary

Table 4.34 presents the regression model goodness of fit on Rationale, Motives and Aims in conflict resolution. Regression value of 0.524 was established depicting that the independent variable had a very good linear relationship with conflict resolution. An R-square value of 0.275 was established depicted that the relationship was significant and that rationale, Motive and Aims of people in Tana River influences 27.5% of conflict resolution.

Model	R	Squared R	Squared R Adjusted	Standard Error of the Estimation
1	0.524[a]	0.275	0.268	0.18943

a. Predictors: (Constant), Rationale Motives Aims

4.7.6: Analysis of variance

ANOVA analysis was conducted to determine the significance of Rationale, Motives and Aims in the regression model. An F-significance value of less than 0.000 was established depicting that the Rationale, Motives and Aims had a high significance in the model (confidence level) ($p<0.05$).

Table 4.35: Rationale motives and aims-ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	1.521	1	1.521	42.387	.000[b]
Residual	4.019	112	.036		
Total	5.540	113			

a. Dependent Variable: Conflict Resolution

b. Predictors: (Constant), Rationale Motives Aims

4.8.7: Regression coefficients of rationale, motives and aims on conflict resolution

The study established the following regression model:

Conflict Resolution = -1.350 + .744*Rational, Motives and Aims

The study established that when the rationale, Motives and Aims are zero, and conflict resolution would be at -1.350. The study also established that holding other factors constant, a unit increase in job autonomy would yield a 0 .744 increase in conflict resolution. From the coefficients, it was noted rationale, motives and Aims are significant in explaining Conflict resolution in Tana River.

Table 4.36: Regression coefficients

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1.350	.462		-2.923	.004
	Rationale Motives Aims	.744	.114	.524	6.511	.000

a. Dependent Variable: Conflict Resolution

4.8 Politics and conflicts

4.8.1 Political effects of the conflict

The respondents were asked to indicate whether the conflict had political effects in Tana river county. According to the findings in Table 4.37, majority (72.6%) of the respondents indicated that clashes could not allow people vote, 99.1% indicated that conflicts led to stronger group coherence for community members and would vote for their own while 100% of the respondents indicated that People could not vote for any leader regardless of ethnicity.

Table 4.37: Impacts of conflicts on politics

Impact	Frequency		Percentage	
	YES	**NO**	**%YES**	**% NO**
Voting pattern	85	32	72.6	27,4
Stronger group coherence	116	1	99.1	0.9
Voting regardless of ethnicity	117	0	100	0

4.8.2 Government involvement in solving conflict

The government's role in dealing with conflict could be impaired by some circumstances. They could lose efficiency in management of communal fights or find itself in specific conflicts in a way that depicts it as prejudiced instead of being an unbiased arbitrator. Also, some none state actors' interventions that used to arbitrate in various conflicts are no longer useful. Governments typically respond to conflict through a mixture of suppressing of armed application of political concessions and also consultations. The government usually try to pre-empt the conflict before it becomes violent. These deterrent and suppression act is easier to implement if the government is viewed as non-partisan in the conflict (Ciro &Susanne, 2002)

The respondents were asked to indicate rating of the government's involvement in solving the conflicts. The responses were placed on a five Likert scale ranging from 1 (not important) to 5 (very important). Standard deviation was used to indicate the variation or "dispersion" from the "average" (mean). From the findings in Table 4.38, respondents rated holding peace meetings (Mean=4.1453), as an important role played by the government in solving conflicts while

Disarmament (Mean=2.9402), Sending government officials (Mean=2.7607), Curfew (Mean=2.6496), Arrested some community members (Mean=2.6496) were rated as roles of moderate importance in the involvement of government in solving conflicts. Futher the respondents indicated that establishment of new police posts (Mean=2.2991), deployment of general service unit (GSU) (Mean=2.2735), Set a comission of inquiary (Mean=2.1197) and Sending food aid (Mean=1.5470) were rated as of little importance in solving conflicts by the government in Tana River County.

Table 4.38: **Government involvement in solving conflict**

Measure	**Mean**	**Std Dev**
Held peace meeting	4.1453	1.45190
Disarmament	2.9402	1.70340
Send government official	2.7607	1.42423
Carfew	2.6496	1.35390
Arrested some community members	2.6496	1.64168
Established new police post	2.2991	1.59344
Sent general service unit (GSU)	2.2735	1.20790
Set a comission of inquiary	2.1197	1.67210
Send in food aid	1.5470	1.17807

4.8.3: Influence of politics in conflict resolution

Correlation analysis was used to establish the influence of politics on conflict resolution in Tana River as depicted in table 4.39. Two-tailed Pearson correlation (R) was used to establish the same at 99% confidence level. From the results, Politics had a correlation coefficient (r= -0.435, p=.000) with conflict resolution. This depicts a moderately strong negative linear relationship between politics and conflict resolution

Table 4.39: Correlation matrix (politics)

Correlations

		Politics	Conflict Resolution
Politics	Pearson Correlation	1	-.435**
	Sig. (2-tailed)		.000
	N	114	114
Conflict Resolution	Pearson Correlation	-.435**	1
	Sig. (2-tailed)	.000	
	N	114	114

**. Correlation is significant at the 0.01 level (2-tailed).

4.8.4: Model Summary on the effects of politics on conflict resolution

Table 4.40 presented the regression model goodness of fit on politics. A regression value of 0.435 was established depicting that the independent variable (politics) had a good linear relationship with job performance. An R-square value of 0.189 was established depicted that the relationship

was significant and that politics in Tana River account for 18.9% of Conflict Resolution in Tana River.

Table 4.40: Politics and conflict resolution (model summary)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.435[a]	0.189	0.182	0.20028

a. Predictors: (Constant), Politics

4.8.5: Analysis of variance (politics)

The Analysis of variance was conducted to determine the significance of politics on conflict resolution in the regression model. An F-significance value of less than 0.000 was established depicting that the politics had a high significance in the model (confidence level) ($p<0.01$).

Table 4.41: Politics-ANOVA

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.048	1	1.048	26.115	.000[b]
	Residual	4.492	112	0.040		
	Total	5.540	113			

a. Dependent Variable: Conflict Resolution

b. Predictors: (Constant), Politics

4.8.6: Regression coefficients of politics and conflict resolution

Table 4.42 shows that the study established that when politics is zero, and conflict resolution would be at negative 1.980. The study also established that holding other factors constant, a unit increase in politics would yield a .076 decrease in Conflict resolution. From the coefficients, it was noted Politics is significant in explaining conflict resolution in Tana River.

Table 4.42: Regression coefficients (Politics)

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.980	.066		29.841	.000
	Politics	-.076	.015	-.435	-5.110	.000

a. Dependent Variable: Conflict Resolution

The study established the following regression model:

Conflict Resolution= 1.980 - 076*Politics

4.9 Conflict resolution

4.9.1 **Conflict resolution activities**

The respondents were required to indicate what could be done to solve the problem of natural resource-based conflicts in Tana River County to enhance peace. According to the findings in Tables 4.43, majority (63.2%) of the respondents indicated that land allocation could not solve the problem of natural resource based conflicts in Tana River country to enhance peace, 41% indicated that inter-community sports activities could be used, 88.9% indicated that regular peace meetings could be used, 44.4% indicated that developing more water points could be an option .another 47% indicated creation of more grazing corridors could be used, 76.9% indicated that enacting appropriate by laws could be used, 100% indicated that encourage intermarriage could not be used. 86.3% indicated that Encouraging religious tolerance could not be used while 88.9% indicated that Inter-ethnic schools could be established to solve the problem of natural resource-based conflicts in Tana River County to enhance peace

Table 4.43: Conflict resolution activities

Activity	Frequency		Percentage	
	YES	NO	%YES	% NO
Land allocation	43	74	36.8	63.2
Intercommunity sports activities	48	69	41.0	59.0
Regular peace meetings	104	13	88.9	11.1
Develop more water points	52	65	44.4	55.6
Create more grazing corridors	55	62	47	53.0
Enact appropriate by-laws	90	27	76.9	23.1
Flag alternative livelihoods	17	100	14.5	85.5
Encourage intermarriage	117	0	100	100
Encourage religious tolerance	16	101	13.7	86.3
Build inter-ethnic schools	104	13	88.9	11.1

4.9.2 Role of devolution in conflict management in Tana River County

The study used an open-ended question to investigate role of devolution in conflict management in Tana River County. Most of the respondents indicated that the devolution of powers to the county had helped the residents in dealing with conflicts in the manner that fits them most without using the central government. Different counties deal with conflicts in different means and this was given an upper hand by devolution. Some indicated that devolution brought majimbo system which helps the residents concentrate on their issues without central government interference.

Others indicated that devolution granted significant autonomy to the counties in terms of executive power, especially on functions that often cause inter-group conflict such as cultural preservation and local development planning.

4.9.3 Benefits from devolution

The respondents were required to indicate whether the residents benefited from the development since the county government was established. The Constitution of Kenya 2010, article 174 enumerates the objects of the devolution of government. In sub article (c) gives give powers of self-governance to the people and enhance the participation of the people in the exercise of the powers of the State and in making decisions affecting them; sub article (d) recognize the right of communities to manage their own affairs and to further their development; while sub article (f) promote social and economic development and the provision of proximate, easily accessible services throughout Kenya. Further, sub articles (g) and (h) ensure equitable sharing of national and local resources throughout Kenya and to facilitate the decentralization of State organs, their functions and services, from the capital of Kenya. The findings in Table 4.44 show that less than 46% have benefited from the development since the county government was established.

Table 4.44: Benefits from devolution

	Frequency (N)	**Percent (%)**
Yes	54	46.2
No	63	53.8
Total	117	100.0

The study further sought to investigate infrastructure that was available to enhance resilience**.** As per the findings in Table 4.45, majority (70.9%) of the respondents indicated that Schools, Hospitals, roads and transport were the infrastructures that were available to enhance resilience, 28.2% indicated Safe and clean water while 0.9% of the respondents indicated markets as their infrastructure that was available to enhance resilience

Table 4.45: **Infrastructure available to enhance resilience**

	Frequency (N)	**Percent (%)**
Schools, Hospitals, roads and transport	83	70.9
Safe and clean water	33	28.2
Markets	1	0.9
Total	117	100

4.9.4 Adequacy of socio-economic infrastructure

The study further sought to investigate whether the socio-economic infrastructure was adequate for the needs of the community. The results of the inquiry into adequacy of socio-economic infrastructure are depicted in Table 4.46; it shows that most (55.6%) responded that socio-economic infrastructure was not adequate for the needs of the community while 44.4% indicated that the socio-economic infrastructure was adequate for the needs of the community in Tana River County. This shows that the majority of the people are still dissatisfied with the infrastructure service provision and hence their level of dissatisfaction can easily trigger violent reaction against

the community which seems to be satisfied with the infrastructure provided by the county government.

Table 4.45: Adequacy of socio-economic infrastructure

	Frequency (N)	**Percent (%)**
Yes	52	44.4
No	65	55.6
Total	**117**	**100.0**

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATION

5.1 Introduction

The chapter presents summary of findings on the causes and effects of conflicts on the social and economic development of Tana River County. The chapter also presents the conclusions drawn from the findings and the recommendations made thereon.

5.2 Summary of findings

The study found that the main causes of conflicts in Tana River County was the natural resources and these conflicts have had massive impact on the social and economic development of Tana River County. The study also found that farming was the main economic activity in Tana River County although farming land was scarce. The study further found that the residents of Tana River County had low incomes implying high poverty levels. Also, the study found that the inhabitants of Tana River County uphold the institution of marriage in high regard. In addition, the study found that livestock keeping was also part of the economic activities in the study area. The study also found that almost everybody in the county had experienced conflicts atleast once in five years.

Further the study found that Access to grazing and Presence of war were in most cases causes of conflicts. Further Divergent land needs also played as a conflict factor. Negative Ethnicity and water resources were Proximate Conflict Factors. The study found out that there was historical agreement on using the resources in the Tana River County,though it is breached from time to

time. Further the study found that peace talks was a method of coping with conflicts and was unanimously supported by the majority of the residents.

The study further foundout that conflicts affected farming to a great extent such that it led to reduced farming activities, crop theft, rotting of produce in the farms and crop land being abandoned. Livestock farming was also affected in that grazing land was abandoned, overgrazing in safer grounds leading to destruction of biodiversity.

Further the study found that education was also affected in that there was closure of schools and low enrolement in the existing schools. Also the study found that health sector was also affected in that there was increased reports of injured people in the local health centres. The study also found that peace building among the communities was used solely as a means of managing and rehabilitating the conflict victims.

Further the study found that stopping opponents from destroying their livelihood was the main reason for the last conflict. The conflicts prohibated people from voting and that they led to stronger group coherence for community members and they could not vote for a person from another ethnic group.

Government involvement in solving Conflict is mainly in leading the peace meetings by sending government officials into the affected areas. Also conflict resolution activities were incorporated like enacting appropriate by laws and establishing inter-ethnic schools. Finally, the study found that Schools, Hospitals, roads and transport were the infrastructures that were available to enhance resilience.

5.3 Conclusions

The study concludes that the main causes of conflicts in Tana River County was the natural resources and these conflicts had massive social and economic development of Tana River County. The study also concludes that farming was the main economic activity in Tana River County although farming land was scarce. Further the study concludes that Access to grazing and negative ethnicity were the leading causes of conflicts. Divergent land needs, Negative Ethnicity and water resources were Proximate Conflict Factors. The study established that there was historical agreement on using the resources in the Tana River County.

Further the study concludes that peace talks was a method of coping with conflicts. The study concludes that conflicts affected farming to a great extent such that it led to reduced farming activities, crop theft, rotting of produce in the farms and crop land was abandoned. Livestock farming was also affected in that grazing land was abandoned and overgrazing in safer grounds leading to destruction of biodiversity. Further the study concludes that education was also affected in that there was closure of schools and low enrolement in the existing schools.Further the study concludes that stopping opponents from destroying their livelihood was the main aim of involment in the last conflict. The conflicts prohibated people from voting and that conflicts led to stronger group coherence for community members and they could not vote for a person from another ethnic group. Finally, the study concludes that Schools, Hospitals, roads and transport were the infrastructures that were available to enhance resilience.

5.4 Recommendations

- The county government in conjunction with the national government to rehabilitate the collapsed irrigation schemes in Bura, Hola and tana Delta to provide alternative livelihood support to the residents.
- The provision of sustainable water supply to the pastoral community through construction of earth dams, rehabilitation of existing boreholes and drilling new boreholes. The borehole should be fitted with renewable energy sources like solar for sustainability.
- Improved capacity of the pastoral community on modern livestock husbandry practices including observance of the recommended land carrying capacity, pasture establishment and conservation.
- Improved capacity of the farmers through proper value chain analysis of the crop enterprises, improved marketing of produce and crop diversification.
- Improved citizen participation in development projects, decision making especially on use of the available natural resources in the county.
- Encourage alternative dispute resolution options to address the natural resource based conflicts

5.5 Constraints during the study

The study was carried with a few challenges. The main one was the challenge of securing appointments with some interviewees who did not want to set aside some time for discussion with the researcher and his research assistants. To counter this problem, the researcher hired qualified assistants who professionally handled all kinds of problems as it pertains to respondents. Confidentiality being a primary weakness of descriptive survey; the subjects were at some point

not truthful as they felt the need to tell the researcher what they thought the researcher wanted to hear. Some participants refused to provide answers to questions they viewed to be too personal.

5.6 Suggestions for future study

During the study the researcher came across areas that would be interesting for further investigation. The study recommends that a study be done on effect of alienation of large tracts of land by both the local residents and foreign land owners on intensification of the conflict in Tana River County. The study on natural resources-based conflict should be undertaken in other counties and the results compared.

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APPENDICES

Appendix I: Research budget

Item of expenditure	QUANTITY	UNIT PRICE	TOTAL
Stationary			
1. Printing	100	15	1500
2. Photocopy	500	5	2500
3. Pencils	10	50	500
4. Folders	10	200	200
5. Flipcharts	3	1500	4500
6. Masking tape	3	200	600
7. Felt pens	15	200	3000
8. Erasers	10	25	250
Scoping study			
1. Conference facility hire	3	2000	3000
2. Meeting allowance	20	500	10000
3. Contact person	5	1000	5000
4. Meals and refreshments	20	500	5000
5. Local running(fuel)	100	100	10000
Transport			
1. Nairobi- Hola (Pilot study)	3	4000	12000
2. Hola–Garsen	4	1000	4000
3. Nairobi – Hola (actual data collection)	3	4000	12000
4. Fuel /car hire for supervision	1	14 days @3000	42000
Actual data collection			
1. Enumerator	5	2000 for 14 days	140000
2. Supervisors	2	3000 for 14 days	84000
3. Contact person	1	1000 for 14 days	14000
4. Researcher	1	6500 for 14 days	91000
5. Air time (Supervisors)	2	1500	3000
6. Airtime (Researcher)	1	2000	2000
7. Airtime (Enumerators)	4	1000	4000
Focused group discussions			
1. Conference facility hire	4	1000	4000
2. Meeting allowance	20	500	10000
3. Contact person	1	500 for 4 days	2000
4. Meals and refreshments	25	500	12500
5. Local running(fuel)	100	100	10000
Miscellaneous			5000
Grand total			497,700

Appendix II: Work plan and budget

Activity	**Month /year**
Coursework and developing of research proposal	Done
Refine research proposal and defense	1/7/2015
Scoping study	February 2016
Develop questionnaire	March 2016
Training of 5 research assistants	March 2016
Pilot study at Galole sub –county	April 2016
Data collection	2nd-15th May 2015
Data entry and analysis	15th-30th may 2016
Writing thesis and research 2 journal articles	June –August 2016
Production and submission of final report	5th September 2016
Graduation	August 2017

Appendix III: Livelihood specific questionnaire

SERIAL NO. -------

NATURAL RESOURCE BASED CONFLICTS IN TANA RIVER COUNTY

1 Respondent

1.1 Ethnic group----------

1.2 Gender of respondent

1. Male □

2. Female □

1.3Please indicate age category

a. less than 14 years □
b. 15-24 years □
c. 25-35 years □
d. 36-45 years □
e. above 45 years □

1.4 Please indicate your highest level of education

a. None □
b. Primary level □
c. Secondary level □
d. College level □
e. University level □
f. Other(specify) □

1.5 What is your occupation?

a. Farmer □

b. Teacher □

c. Medical doctor/nurse □

d. Agricultural officer □

e. Business □

f. Religious leader □

g. Community leader (chief, village elder, etc.) □

h. Other (specify) □

1.6 What is the approximate size of your land?

1. Less than an acre □
2. Between 1-3 acres □
3. Between 4-7 acres □
4. above 7 acres □

1.7 What is your level of income per month?

a. less than Kes.1,000 □

b. Between Kes.1,000-5,000 □

c. Between Kes.5,001-15,000 □

d. Between Kes.15,001-30,000 □

e. over Kes.30, 000

1.6 Marital status—

a. Married

b. Single

c. Divorced

d. Widowed

2) Household chatracteristics

2.1 Number of menbers……

2.2 Number of grown ups……

2.3Number of children…….

2.0 Main source of income

2.1 What is your main source of income

a. Anaimal keeping

b. Farming Bussiness

c. Employed

d. Other ,specify.....

2.2 On how many acres of land do you farm?.....

2.3 How many animals do you keep?

a. Chicken……..

b. Donkeys…….

c. Sheep …….

d. Goats……..

e. Cattle……..

f. Camels……...

3.0 Respondents experience

3.1 For how long have you been living in this area

a. one year

b. 1-5 years

c. 5-10 years

d. 10-15 years

e. 15-20 years

f. More than 20 years

3.2 Have you ever experinced any conflict ?

- Yes
- No

3.3 If yes what was the cause of that conclict?

a. Land dispute

b. Access to water

c. Acess to grazinfg fields

d. Political contest

3.4 When was the last conflict encountered?

a. This year

b. Last year

c. 3-5 years ago

d. 5-10 years ago

3.5 What causes conflicts here in Tana river county(Conflict factors)

a. Land tenure

b. Minimum security presence

c. Divergent land needs

3.6 Proximate conflict factors

a. Negative ethnicity

b. Armed communities

c. Clash for water resources

d. Unemployment

e. Ploriferation of small annd light arms

f. Historical injustices

g. Exsistance of armed gangs

3) What usually triggers conflict in this county ?

a. Migration insearch of water during dry spell.

b. politics

4 Is there any historical agreement on using the resources in the county ?

a. Yes

b. No

If yes,can you give example

a. Allocation of land for farme
b. Demarcation of malkas(livestock paths)
c. Grazzing on maize stover after harvest

5)How doyou cope with conflicts?

a. Relief food
b. Peace talks
c. Alternative livelihood
d. Relocation

6) Have you been affected by the conflict which sometimes take place in this county

a. Afected directly
b. Affected indirectly
c. Not affected at all

7 Socio economic impacts of the natural resource based conflicts in tana river county

7.1 Crop farming

a. Reduced farming activity
b. Crop theft
c. Lack of access to markets
d. Rotting of produce in the farms
e. Crop land is abandoned

7.2 Livestock farming

a. Collapse of livestock marketing
b. Grazing landis abandoned
c. Small arms trade increases
d. Overgrazing in safer grounds
e. Destruction of biodiversity

7.3 On education

a. Closure of schools
b. Low enrolement in the existing schools
c. Teachers relocate to safer places

7.4 Health impacts

a. Increased human and livestock diseases
b. Increased reports of injured people in the local health centres
c. Closure of health facility
d. Flight of health personnel
e. Withrawal of health personnel

8 Suggest ways in which conflict in Tana river county could be managed and how victims could be rehabilitated (Restitution/rehabilitation of victims)

a. Restock
b. Disarm youth
c. Indroduce modern farming

d. Rehabilitate irrigation schemes

e. Peace building among the communities

f. Courts

9 Has the conflict in Somali had any influence on the conflict dynamic in Tana River county?

a. Yes

b. No

9.1 If yes, how?

a. Limited grazing land

b. Availability of small and light arms

c. Insecurity in the forests where pastoralists used to graze their animals during dry season

d. Recruitment of local youths into the armed conflict

e. In migtration of hersders from Somali

9.2 Has the land allocation for investmnet had any impact on conflict dynamic in the Tana River county?

a. Yes

b. No

9.3 If yes ,how?

a. Land allocation to outsiders

b. Lack of traditional dry season grazing fields

c. Closure of livestock corridors

d. Conclicts arising from employment opportunities

10 Rationale, Motives And Aims

10.1 What would you say were the causes of and the reasons for the latest conflict you witnessed? please rank the answers from very important(5) to not important(1)

	5	**4**	**3**	**2**	**1**
Natural resources					
Revange					
Intimidation					
Displacement					
Hatred					
Pure violence					
Creating an enemy					
Provocation					
Defence					
No idea					
Others (specify)					

10.2.What were the aims of your community involment in the last conflict ?Please rank the answers from very important(5) to not important(1)

	5	4	3	2	1
Unification of our community					
Intimidation of the other group					
Gain of political power					
To show them our strength					
Stop them destroying outr livelihood					
Displacing thm from the delta					
No idea					
Others (specify)					

10.3.What were the aims of the other group involment in the last conflict?Please rank the answers from very important(5) to not important(1)

	5	4	3	2	1
Unification of our community					
Intimidation of the other group					
Gain of political power					
To show them our strength					
Stop them destroying outr livelihood					
Displacing thm from the delta					
No idea					
Others (specify)					

10.4 Which community or individual started the clashes?……..

11 Politics and conflicts

11.1 What political effects did the conflict have ?

a. People could not vote
b. Led to stronger group coherence for community members and would vote for their own
c. Now People feel they can vote for any leader regarless of ethnicity
d. No idea
e. Other (specify)…….

11.2 How did the government tried to solve the conflict? please indicate how effective the measures wereplease rank the answers from very important(5) to not important(1)

Measure	**5**	**4**	**3**	**2**	**1**
Held peace meeting					
Send government official					
Sent general service unit(GSU)					
Carfew					
Disarmament					
Established new police post					
Arrested some community menbers					
Set a comission of inquiary					
Send in food aid					

No idea					
Others (specify)					

12. Conflict Resolution

According to you, what could be done to solve the problem of natural resource-based conflicts in Tana River country to enhance peace?

a. Land allocation, if yes to whom ……..
b. Intercommunity sports activities
c. Regular peace meetings
d. Inter-ethnic schools
e. Develop more water points
f. Create more grazing corridors
g. Enact appropriate by laws
h. Flag alternative livelihoods
i. Encourage intermarriage
j. Encourage religious tolerance
k. Appropriate land use plan

15. What infrastructure are available to enhance resilience?

a. Schools, hospitals and roads
b. Safe and clean water
c. Markets

d. Electricity

e. Other

16. Is the socio –economic infrastructure adequate for the needs of the community?

a. Yes

b. No

Appendix IV: Interview guide

SERIAL NO. -------

Natural Resource Based Conflicts in Tana River County

Respondent Name…….

Respondent Age……

Respondent Sex……

Respondent Occupation……

Key Informants Meeting Guide

1. Information from older folks)

- When did you (ethnic gathering) came to Tana River and why?
- Whom did you find on your landing?
- Can you please give me a concise history about Tana River?
- Who are unique occupants of Tana River as indicated by you? Why?
- Were there clashes then? Give reason?
- What approach was utilized to settle the contentions?
- Can you please educate me regarding land utilization framework in Tana River?

2. What are the primary drivers of contentions in Tana River?

• What do you believe is the reason for clashes in Tana River?

- When did the contentions over land begin?
- Are the contentions ethnically based or between relatives?
- Does all the Tana River individuals' access and own land if yes how, if no why?
- Has clashes over land ever lead or added to savagery?
- Do you think any outsider claim land in Tana River, if yes, how could they get their parcels?
- Is there any non-attendant land owner in Tana River?
- Are the contentions amongst migrants and non-migrants?

3. Under what conditions may rivalry over land degenerate into clashes?

- Does competition for land exist n Tana River?
- If yes, who do you believe are the contenders over the land in Tana River?
- Tana River County has a huge land contrasted with other counties, for what reason do you think individuals Compete?
- Number of ethnic groups living in Tana River? Do they all have similar rights to own land?
- Has rivalry over land at any point added to clashes?

- When did you settle in Tana River?
- concerning your land, how did you acquire it? Did you purchase, acquire from your folks or gifted?
- Is it simple to acquire a piece of land in Tana River?
- Have you at any point been removed from your property, if yes, why and what move did you make to oppose the expulsion?

4. What strategies are set up for apportioning land?

- Who dispenses off land in Tana River?
- Who are the recipients of land portion in Tana River?
- What criteria are utilized as a part of dispensing or potentially conveying land in Tana River?
- What demonstrates that you possess the land? Do you have any land certificate?
- What is your view about the land certificate, do you think everybody has the ability to acquire the land certificate?
- What is your inclination about the regional government as the caretaker of the land in Tana River?
- Do you figure they do their work as expected of them? Is it true that they are reasonable in allotting land?

5. What methods are applied for dealing with conflicts and organizations participate asset

- County managements?
- Which mediation techniques were utilized to lessen the clashes?
- How are the clashes being settled?
- Who mediates?
- Is there any organization that deals with resource clashes in Tana River?
- Is there any conventional clashes tackling components? How compelling is this
- How powerful are the local establishments in resolving the clashes?

Meeting guide for County Government, Ministry of Land, Community Based Organization (CBO), Faith Based Organization (FBO), Non-Governmental (NGO) authorities (notwithstanding the above)

The County Government, Ministry of Land, Community Based Organization (CBO), Faith Based Organization (FBO), Non-Governmental (NGO) authorities will be asked the accompanying Inquiries)

- Who oversees allocation of land in Tana River?
- You are the caretaker of the land; would you be able to please inform me briefly regarding Tana River County?
- Who dispenses allocation of land in Tana River?

- Does every one of the general population in Tana River have equity in access to the land? Give reason?
- What are the systems of land distribution? Is the technique comparable for private and Business plots?
- Do irreconcilable circumstances in some cases emerge over land allotment, how would you deal with this as the caretaker of the land?
- How is your connection with the region Government/Ministry of land?
- Is there some other organization managing the land? What are its duties?
- Do Tana River individuals have title deeds? Who issues title deed?
- Which territories are questioned and what are your plans to diminish the contentions?
- Tana River is a common resource; do you think there is any conflict over this resource by the local inhabitants? How would you deal with the issue?
- Who manages the resource conflicts?

Appendix V: Seasonal Calendar for Tana River County

<table>
<tr><td colspan="3">Milk yield drops
Livestock move towards dry season grazing areas
Decline in livestock prices
Water stress in the traditional grazing areas</td><td colspan="3">Increased milk production
Livestock move towards the traditional wet season grazing areas
High calving and lambing rates</td><td colspan="3">Low milk availability
Livestock move towards the dry season grazing areas (riverine and Delta)
Water and pasture stress experienced in the hinterland pastoral dominated areas
High incidences of conflicts between farming and pastoral communities</td><td colspan="3">Increased milk yields
Livestock move back to the traditional grazing areas.
Calving rates increases
Decline in livestock sales</td></tr>
<tr><td colspan="3">Lean period for pastoralists</td><td colspan="3" rowspan="2"></td><td colspan="3">Lean period for pastoralists</td><td colspan="3" rowspan="2"></td></tr>
<tr><td colspan="3">Short dry spell</td><td colspan="3">Long rains</td><td colspan="3">Long dry spell</td><td colspan="3">Short rains</td></tr>
<tr><td>Jan</td><td>Feb</td><td>Mar</td><td>Apr</td><td>May</td><td>Jun</td><td>Jul</td><td>Ag</td><td>Sep</td><td>Oct</td><td>Nov</td><td>Dec</td></tr>
<tr><td>Short rains harvest</td><td>Land Preparat ion</td><td colspan="3">Planting/weeding
Lean period for farmers</td><td>Crops at green maturity</td><td colspan="2">Long rains harvest</td><td>Land Preparat ion.</td><td colspan="2">Planting/Weeding
Lean period for farmers</td><td>Crops at green maturity</td></tr>
</table>

Source: Adopted and modified from Tana River county drought early warning bulletin, October 2012

Appendix vi: Research permit