

**NATURAL RESOURCE-BASED CONFLICTS ON SECURITY IN TANA
RIVER COUNTY, KENYA**

DOUGLAS FANUEL CHIKANDAH

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DECLARATION

This research Project is my original work and has not been presented for a degree in any other university.

Signature _____ Date _____

Douglas Fanuel Chikandah

S201/CTY/PT/38482/2017

This research project has been submitted with my approval as the university supervisor

Signature _____ Date _____

Dr. Bernard Munyao Muiya

Department of Security and Correction Science

Kenyatta University

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ABBREVIATIONS AND ACRONYMS

ADR	Alternative Dispute Resolution
BC	Before Christ
CIDP	County Integrated Development Plan
COMESA	Common Market for Eastern and Southern Africa
CPR	Common Property Resources
DRC	Democratic Republic of Congo
GoK	Government of Kenya
HII	Heidelberg Institute for International Conflict Research
HSU	Human Security Unit
IUCN	International Union for Conservation of Nature
IFAD	International Fund for Agricultural Development
IGAD	Inter-Governmental Authority on Development
IPOA	Independent Police Oversight Authority
KHCR	Kenya Human Rights Commission
KHRC	Kenya Human Rights Commission
KNBS	Kenya National Bureau of Statistics
LAPSSET	Lamu Port South Sudan Ethiopia
NGO	Non-governmental organizations
NPS	National Police Service
NPSC	National Police Service Commission
OCHA	Office for the Coordination of Humanitarian Affairs
SALW	Small Arms and Light Weapons
SPSS	Statistical Program for Social Scientists
TDRMs	Traditional Dispute Resolution Mechanisms

UN

United Nations

UNEP

United Nations Environmental Programme

UNF

Unifying Negotiation Framework

OPERATIONAL DEFINITION OF TERMS

ADR: Decision-making processes other than litigation including but not limited to negotiation, enquiry, mediation, conciliation, expert determination, arbitration and others. To some writers, however, the term ‘alternative dispute resolution’ is a misnomer as it may be understood to imply that these mechanisms are second-best to litigation which is arguably not true.

Natural resources: stocks or material that exists in the natural environment and is economically useful in production or consumption.

Security: Freedom from fear of violence and conflict and freedom from want of hunger and deprivation.

Security community: Any of the agencies charged with the responsibility of ensuring the security of a people in a specific location

Structural violence: Form of violence where the social structure prevents societal members meeting their basic needs

ABSTRACT

Access to natural resources is increasingly being considered a security issues and cannot therefore be taken for granted. This is because natural resources normally occur alongside other conflict issues like territory and regional predominance. In low-income countries like Kenya, access to natural resources is a serious issue especially when such countries lack enough capacity to deal with environmental challenges and scarcity. The study therefore assessed resource-based conflicts on security in Tana River County, Kenya. The specific objectives of the study were; to analyze the nature of conflicts between the pastoralist and agro-pastoral communities in Tana River County, to assess the security threats associated with natural resource-based conflicts in Tana River County, to establish the conflict management approaches used in Tana River County, and lastly to establish the challenges encountered in solving natural resource-based conflicts in Tana River County. Structural conflict theory and the Neo-Malthusian theories were used in this study. The study employed mixed methods approach. Data for the study was collected using questionnaire, interview schedule and focus group discussion guides. The respondents in the study were household heads in Ngao and Kilengwani divisions of Tana River County, Kenya, the sub-county police commanders and the ward commanders from the Kenya Police Service in Tana River County, the County commissioner for tana River County and the Deputy County commissioners in Tana River County. Sampling was through proportionate (household heads) and purposive (key informants) approaches. The target population was 8476 and the sample size was 382. Reliability of the study questionnaire was ascertained through test-retest method where Cronbach's alpha Coefficient of reliability was computed and established to be 0.795. Validity of the study questionnaire was ascertained through expert opinion. Quantitative data was analyzed through descriptive and inferential statistics with the help of the Statistical Package for the Social Sciences (SPSS) version 23 for windows. Qualitative data was analyzed using thematic themes. Study findings revealed that natural resource-based conflicts are a frequent phenomenon in Tana River County as was observed by 97.9 per cent of the study participants. The study established that the natural resources that led to frequent conflicts were water, pasture, and land. Three types of threats were linked to natural resource-based conflicts in Tana River County: personal, community and environmental security. Four conflict interventions were commonly employed in Tana River County: traditional dispute resolution approaches, alternative dispute resolution, litigation, and joint security meetings. The management of resource-based conflicts in Tana River County was hampered by two factors: the land tenure system and infiltration of small arms. The study recommends that the Ministry of Agriculture in collaboration with the Ministry of Water and Sanitation and Irrigation as well as the County government of tana River generate natural resources policies that will create the existence of sufficient water points in the hinterland. The two ministries together with the County Government of Tana River should revive the collapsed irrigation schemes in order to create livelihoods for community members thus reducing the tensions between the dominant Pokomo and Orma communities. The land tenure system be revised and amended with full participatory of all stakeholders and fair representation from both communities as a matter urgency.

CHAPTER ONE: INTRODUCTION

1.1 Introduction

Chapter one presents a background on the nexus between natural resource use and security management. The section presents a scenario of persistent conflicts pitting the pastoralist communities, especially the Orma and the crop farming Pokomo community in Tana River County despite the presence of different security agencies in the region. This scenario thus creates the need for a study whose general objective is to establish influence of natural resource-based conflicts on security in Tana River County, Kenya. The chapter also presents the statement of the problem, study objectives, the research questions, the significance and justification as well as the scope and limitations of the study.

1.2 Background to the Study

Natural resources conflicts can become pronounced especially when the resources are shared between countries or communities without adequate legal arrangements (Klare, 2002). Many global declarations over water, conflicts have been witnessed that ensure that conflicts do or arise. The United States Institute of Peace (2007) indicates that by 2006, 3,800 such declarations had been signed e.g., the Istanbul in Turkey 5th water forum declaration of head of states over water among others during the earlier indicated year 2006.

The fact that many declarations or conventions exist on water is a clear demonstration of how natural resources can be a trigger of conflicts (Le Billon, 2005). Another reason why natural resources conflicts can be on the rise is due to the fact that resources have played an integral role in society both as a source of

income and identity. This is increasingly so in low and-middle income countries. This is because such countries tend to be more dependent on natural resources as their primary source of income. In addition, natural resources serve as a commodity in the local and global economic structure (Frankel, 2010) thus utilization of such resources has become a problem, especially for African countries (Collier & Hoeffler, 2009). However, many of the declarations and treaties have not resulted into any tangible results that would avert conflict.

Kenya has been faced with conflicts over natural resources such as water, forests, minerals, and land. Natural resource conflicts are unique and they involve livelihoods of people who depend heavily on both renewable and non-renewable natural resources (Kirchner, 2013). Natural resources such as land, water, timber, minerals, metals, and oil are extremely important sources of livelihoods, income, and influence for countries and communities around the globe (Christine & Will, 2010).

Natural resource-based conflicts are partly attributed to a lack of effective conflict management mechanisms (Owuor, Mauta, & Eriksen, 2011) that are respected by various groups, communities, community developers, government, and other organizations that are involved in accessing and utilizing the resources. When natural resources are also poorly managed or inequitably shared, or when business operations are implemented without due consideration, they can contribute to tensions that can escalate into violent conflict. These conflicts if not well addressed can escalate “into violence, cause environmental degradation, and undermine livelihoods” (Jensen, Matthew, & Brown, 2010).

According to Yulia , Alberto , Heijden, and Tim (2017), conflict in society is due to competition over material goods, ecosystem services, economic benefits, property, or power; people believing that their needs cannot be met; their values, needs, or interests been under threat. Moreover, population growth and environmental degradation are intensifying competition over already scarce resources, such as land and water, and climate change threatens to increase such competition even further (Josie Lianna Kaye, 2012

Natural resources conflicts arise due to disagreements or inequitable access to, control, and use of natural resources. Competition for natural resources and lack of formal rules and regulations to access natural resources can cause conflict. The causes of natural resource conflicts can be divided into different types; Rapid population growth, resource depletion, unequal resource access, and political instability.

Insecurity in the society is due to the misuse of natural resources especially in countries like Sierra Leone, Congo, Liberia, and Angola that have high-value natural resources like timber, diamonds, oil, and gold. This is because most of these resources are non-renewable and can exhaust when not wisely used and managed sustainably. The major driving forces for the depletion of these resources are increasing population pressure, urbanization, other land-use changes, inequitable access to and shortage of land, and political instability with profound effects on the stability of both rural and urban settings (UNEP, 2006; UNIFTPA, 2012).

The agro pastoralist Pokomo and pastoralist Orma communities have been in sporadic conflicts since the 17th century (Kirchner, 2013). Over time, however, increasing environmental hardship has led to the heightened tensions between the two communities.

Kirchner (2013) further states that “...disputes over crop damages and access to water had in 2012 led to violence between farmers and herders”. The two communities have also blamed local security agencies including the National Police Service for mishandling the conflicts.

Security's fundamental principles are confidentiality, integrity, and availability. Security in any given society is the quality or state of being secured, that is, to be free from danger or harm. Beyond the question of how much resources ought to be assigned for security purposes, one also needs to determine how much of the said resource is to be allocated across controls that are a preventive, detective, or responsive (Louis, 2003).

Management is the process of achieving objectives using a given set of resources. Two well-known approaches to management are traditional management theory using principles of planning, organizing, staffing, directing, and controlling (POSDC) and popular management theory using principles of management into planning, organizing, leading, and controlling (POLC). Therefore, security management will involve, identifying and controlling the resources applied to the security sector in the country and measuring progress and adjusting the process as progress is made toward the goal of achieving a secure society and managing the resource-based conflicts that arise (Anderson, 2016).

Security management also involves the identification of community assets that is, the people, high-value natural resources like timber, diamonds, oil, and gold followed by the development, documentation, and implementation of policies and procedures for protecting them. An organization uses such security management procedures for information classification, threat assessment, risk assessment, and risk analysis to identify threats, categorize assets, and rate system vulnerabilities (Wallenstein P., 2007).

The exploitation of natural resources poses many challenges in Africa especially the potential conflict in both internal and external states. Illegal exploitation of natural resources has been termed as a ‘national security issue’ and measures should be put in place to secure the continent’s natural and other resources from illicit exploitation and appropriation. (CISSA) Intelligence and Security Services of Africa, a 50 member states committee based in Addis Abba during a conference in May 2013 believed in the permanence of their countries’ sovereignty over their natural resources based on their conference theme "The nexus between Africa's natural resources, development, and security" (Warner, M., April 2000).

Natural resource conflicts are sensitive considering that they arise from the need for people to satisfy their basic needs. To them, justice would mean allowing them to get what they feel entitled to and anything less means that they resort to other means of possessing the same.

This way, conflicts become inevitable. According to Warner (200), conflict “resolution mechanisms such as negotiation and mediation allow the parties to negotiate and reach a compromise agreement, where all sides get satisfactory

outcomes”. This is particularly important in ensuring that there will be no future flare-up of conflict due to unaddressed underlying issues (Warner, 2000)

Population growth and environmental degradation are intensifying competition over already scarce resources, such as land and water, and climate change threatens to increase such competition. The study shall therefore examine the influence of natural resources conflicts on security management in Kenya and ways of managing such conflicts to maintain peace and security in the affected areas as well as information related sectors e.g. policy-making sectors from grass-root to national leadership and contribute information to the academic sector (Yamano, et al., 2016).

The economic marginalization in Tana River County can partly be comparable to other African regions like the Sahel. The county has 76.9 percent of its population living in absolute poverty (Katembu, Miriti, & Carranza, 2017) and a population growth rate of 2.8 percent. This rate in population increase is highly likely to have a direct impact on access to and utilization of natural resources. Pitting the pastoralist Orma community against the agro pastoralist Pokomo community, the region has witnessed violence between the farmers and herders emanating from control of natural resources; thus it is important to establish how this has influenced security in the region.

1.3 Statement of the Problem

Security is priceless in any given society and commitment to maintain, manage and ensure it requires deliberate effort and as much resources as possible. There is an increasing interconnection between natural resources use and conflicts not just in tana

River County, but in Kenya and beyond. For example, there is a link between food, land, and hydrological systems. In this regard, when any of them is affected in terms of availability, there are implications in terms of political as well as national or regional security. This implies that the security of nations or regions increasingly depends on the security of natural resources. Local communities in Tana River rely on the availability of these resources like portable water or arable land. The question that needs interrogation is whether the security community at both national and county levels can conciliate the security challenges posed by natural resource use. The Orma and Pokomo are the indigenous communities in Tana River County and they have shared natural resources in the area by virtue of their stay in the region. The Pokomo are mainly s agriculturalists and fishermen, living along the River Tana while the Orma are nomadic pastoralists living on the lower banks of the Tana and frequently move from one place to another in search of pasture and water for their livestock. In the process, these movements in search of pasture for their livestock lead the Orma into lands that are tilled by the Pokomo and this leads to conflicts. Natural resource conflicts have severe impacts on both humans and the security of the area. Despite efforts to resolve the resource-based conflicts in Tana River County, no positive results have been earned even with the various efforts put in place by the government. Some of the efforts include increased deployment of security agencies to arrest and prosecution of violent perpetrators. There have also been peace mediation meetings by the Orma and Pokomo communities, impromptu security checks as part of illegal arms crackdown missions and forced disarmament. There have been initiatives by non-governmental organizations (NGOs) to defuse tensions between the two communities. The study was carried out in Tana River County in two locations: Ngao in Tarasaa Division, and Kilelengwani in Kipini Division based on the fact that the

region has experienced persistent natural resourcebased conflicts, particularly from 2013. Research gaps still exist as most existing research has concentrated on the causes of conflicts and scarce attention is given to the influence of natural resources conflicts on security management. This then shows that there is need for research to address issues surrounding the interconnectedness between natural resources, particularly renewable natural resources. An understanding of the link between the two shall offer an opportunity to deal with the recurring conflicts effectively; by examining the influence of natural resource conflicts to security in Tana River County.

1.4 Objectives of the Study

The general objective of the study shall be to investigate the influence of natural resources conflicts on security in Tana River County, Kenya.

1.4.1 Specific objectives

The specific objectives shall be:

- i. Analyse the nature of conflicts between the pastoralist and agropastoral communities in Tana River County.
- ii. Assess the security threats associated with natural resource-based conflicts in Tana River County.
- iii. Establish the conflict management approaches used in Tana River County.
- iv. Establish the challenges encountered in solving natural resource-based conflicts in Tana River County.

1.5 Research Questions

The study shall be guided by the following research questions:

- i. What is the nature of conflicts between the pastoralist and agropastoral communities in Tana River County?
- ii. What are the security threats associated with natural resource-based conflicts in Tana River County?
- iii. What are the conflict management approaches used in Tana River County?
- iv. What challenges encountered in solving natural resource-based conflicts in Tana River County.

1.6 Significance of the Study

The findings of this study are regarded as necessary based on the fact that it will help provide additional knowledge in security management, conflict resolution, criminology, criminal justice, and security studies. According to Button (2019), there has been an enormous increase in academic research, study courses, and peer-reviewed publications about security management and conflict resolution. A keen review of existing literature on conflict resolution and security management may result in one developing this conclusion. However, in reality, many other agents contribute towards conflict resolution and management. This proves that the study will contribute to existing knowledge and bridge a gap in knowledge.

Policymakers in the security sector can use this study to formulate policies that will improve the contribution conflict resolution and security management in Tana River County and beyond.

The findings may also be utilized in making amendments and formulating more policies to support the efficiency of conflict resolution strategies that may help

Tana River County and Kenya at large to realize the vision 2030, the big four agenda, and the millennium development goals indirectly because it supports the national and global realization of a secure and crime free society.

1.7 Scope and limitations of the Study

The study was carried out in Tana River County at Tana Delta Sub-County with key focus on influence of resource-based conflicts and how it is a security management dilemma in the region. In this particular study, the impact of search for forced grazing land by the pastoralists' communities' and the link to security management concerns, search for water for livestock use and how the same can trigger tension leading to violent conflicts thus creating a security management concern, how land ownership rights due to poor land tenure systems contribute to violent incidences and thus a security management concern and finally intervention strategies for addressing the security situation in Tana River County was assessed.

Limitations are factors beyond control, which could affect the study. According to Creswell and Creswell (2017), a limitation is an aspect of research that may influence the results but over which the researcher has no control. It may be difficult to control the attitude of the respondents to the questionnaires. The geographical area of study was Tana River County. There were likely difficulties in getting information from respondents in the study due to trust issues. To overcome these limitations, the researcher created rapport with the respondents, assured them of the confidentiality of the information obtained, and stressed that the study's intended purpose is purely academic.

The study also experienced security issues during data collection process as a result of ethnic polarization among ethnic groups living in the region. Some of the respondents thought that they were being questioned or interrogated thus failed to give detailed responses. However, the researcher recruited research assistants from the local community who gave guidance during the data collection process. In cases where the community members could not read or write due to low levels of literacy, the researcher read the questions and then interpreted by the research assistants into local dialect for easier understanding.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The previous chapter covered the introduction of the study including background, statement of the problem, objectives, research questions, and the purpose of the study. Chapter one also included the scope and limitations, assumptions, significance and justification of the study. Chapter two reviews literature which is a summary of key sources relevant to the topic and objectives to assist in understanding the study. This chapter includes literature with information on the influence of resources-based conflicts and how it is a security management dilemma in Tana River County. The chapter also reviews literature as per the study objectives on resources-based conflicts and its influence on security management from a global, region and local context. The chapter concludes by presenting a theoretical and a conceptual framework for explanation.

2.2 Nature of Resources-Based Conflicts and their Management

The term ‘natural resources’ refers to oil, minerals, forests, water, and fertile land that occur in nature and can be exploited for economic gain. These resources frequently represent an important source of income and power, Land, in particular, is essential to the livelihoods of millions of people. When poorly managed, distributed or controlled in an unfair or unequal manner, natural resources can also be a major driver of conflict or instability. Resource conflicts are typically categorized according to the primary resource involved and to the main conflict driver. Typical resource categories include extractive resources (e.g.,

hydrocarbons, minerals, gemstones, and timber), land, and water. Of course, many conflicts involve the interplay of more than one type of resource. Indeed, in the majority of cases, one or more of the following drivers are at play: (1) conflict over resource ownership; (2) conflict over resource access; (3) conflict over decision making associated with resource management; and (4) conflict over distribution of resource revenues as well as other benefits and burdens (UNEP, 2013).

The United Nations Security Council (2017) reports that globally, there are varied and numerous resource-based conflicts to deal with. These conflicts range from territorial, interstate and domestic disputes. The world today is grappling with resource-based conflicts, which remain the most pressing in the international relations perception. Natural resources are an integral part of society, as a source of income, industry, and identity. Developing countries tend to be more dependent on natural resources as their primary source of income, and many individuals depend on these resources for their livelihoods. It is estimated that half of the world's population remains directly tied to local natural resources; many rural communities depend upon agriculture, fisheries, minerals and, timber as their main sources of income.

There is a direct link between Natural resources and social conflicts in Africa. This is because the said existing resources are vital and are of great significance as given by the existing relationship with social conflicts. Looking at the whole issue and from a broader outlook, it can be clearly observed that natural resources are implanted in the natural environment where any step taken by one individual, or group may have effects on other related areas or even extending to

the National level or jurisdictions. This is specifically right because of the shared trans-boundary resources. The issue surrounding the Mau forest complex in Kenya is considered or regarded as a good point of reference. (Kaldor, 2015).

Social conflict triggered by trans-boundary relationships can be traced back between Tanzania and Kenya over the Mara River basin. The Mara River is a basin shared between the two countries because of its origin from the Mau forest complex. This basin also forms part of the larger Nile basin, which is shared by nine countries, namely Ethiopia, Sudan, Tanzania, Egypt Kenya, Uganda, Rwanda Burundi and the Democratic Republic of Congo (DRC). Because of the loss of Mau Forest cover, expansion of agriculture, population increase, sociocultural and socio-economic actors in the Mara River basin have made the said basin to be water stressed.

Water scarcity is not the only challenge in this area. There are other issues touching on loss of virgin forest on the catchment areas, along the river basins, environmental criminal activities related to water pollution, industrial and urban settlement water use, environmental crimes related to water pollution, and high levels of water use by industries including urban built up areas. The said challenges have presented a number of environmental security dilemmas ranging from reduced water supply, competition for the said water resource, poor land use, and poor management of water as a vital and reliable resource. Therefore the use of natural resources has adverse effects to the organisms surrounding the said resource. The immediate consumer is finally affected by the said issues thereby bringing out the need for handling these issues critically in the natural resources platforms.

According to the scientific principles and methods as presented in the case of Mara River basin, the related ecological processes at any given environment can bring long term challenges like animal habitat loss, soil erosion, and environmental pollution among others. These problems at the end of the day bring challenges to environmental management, the management of conflicts; policy management issues and the legal processes generally. (Waititu, 2016).

The resource-based conflicts between the farmers who are majority Pokomos and the pastoralists consisting of mainly the Orma of the Tana River County revolve around resources. Religion and other aspects of identity then become markers of belongingness and ethnicity (Badurdeen & Omalenge, 2015). Tensions and competition around natural resources are prevalent in the Tana River County and there is an increasing competition for fewer resources such as water and land resulting in conflicts. Government development strategies aimed at boosting agriculture such as Bura, Hola and Tana Delta irrigation schemes have not been effective due to lack of maintenance of the schemes (Badurdeen & Omalenge, 2015). The collapsed irrigation schemes had earlier influenced residents' lifestyles in terms of sources of income, forced the nomadic pastoralists to move during the wet season, while the farmers remained along the river (Weiss, 2004).

Competition for resources typically lies at the heart of conflicts including those for political power from lack of security or psychological fear of political uncertainty (Adedeji, 1990). Utilization of the waters of the Tana River has therefore been at the middle of a conflict pitting these two communities against each other. During the dry season the pastoralists move back to the river in search

of water and pasture. Essentially, the Pokomo claim the land along the river and the Orma claim the waters of the river (Weiss, 2012). However, security demands that Tana River communities co-exist peacefully with the limited resources they each have to contend with (Adedeji, 1990). The escalation of the conflict has partly been linked to other factors such as political interests, incitement, lack of alternative livelihoods, high levels of poverty, breakdown of indigenous governance systems and inadequate security systems or policies (Mohamed, 2015). Violence in the pastoralist areas has had a severe negative socio cultural, political and economic impact on the pastoralist communities including loss of human lives and properties, displacement of communities, breakdown of economic activities and infrastructure, environmental degradation, inter-ethnic hatred and mistrust (Mohamed, 2015).

2.3 Security Threats and Security Management

The resource-based struggles between the Pokomo and the Orma emanate from land and grazing rights. The Orma pastoralists accuse the Pokomo farmers of restricting their access to water points and grazing fields while the Pokomo accuse pastoralists of grazing on their farms and destroying their crops (Badurdeen & Omalenge, 2015). To resolve conflicts arising from tensions within the communities or between communities in the Tana River region, traditional mechanisms have been used by village elders. Traditional local peace meetings led by the elders aim to deal with resource-based struggles arising between the Pokomo and the Orma especially on access to water points and pastures. However, the role of the traditional mechanisms is now diminishing with heavily politicized contexts. For instance, it has been reported that elders who had goodwill in the

community have now become corrupt thus making the mechanisms lose credibility (Badurdeen & Omalenge, 2015).

Due to lapses in the traditional mechanisms of dealing with conflicts, there is a need for law enforcement officers to intervene whenever conflicts arise. Therefore, the need for effective security management is urgent as the conflicts are politicized and blown out of proportion taking ethnic dimensions. For example, the 2012/13 conflict led to ethnic violence where 200 people were killed and many hundreds displaced (Kirchner, 2013). Nyanchoga (2017) states that the conflict between the Orma and Pokomo tribes resulted in the deaths of 118 people and displacement of more than 13500 with an additional 30000 people affected by ethno-political clashes. Over 50% of the displaced people were children and the rest women and the elderly (Nyanchoga, 2017). The resource-based struggles between communities in Tana River also led to loss of properties, destruction of crops, overgrazing of fallow land, contamination of the water sources by cattle and harassment of pastoralists by farmer youths. Other results include sexual harassment of women by either community, theft of cattle, reduction in output and income, displacement of farmers and pastoralists (Badurdeen & Omalenge, 2015).

2.4 Conflict Management Approaches and Security Management

Conflict over natural resources is likely to pose significant threats to global security, therefore, needs to elaborate a comprehensive strategy to meet and overcome these threats. This strategy should combine existing instruments and approaches more effectively, while also finding new ways to balance the imperatives of access to natural resources, regulation of markets and conflict prevention, mitigation and resolution. Such an approach requires a better

understanding of natural resource-related security and conflict challenges, as well as an analysis of how current policies affect these challenges. The strategy should therefore be based on comprehensive research into the connection between natural resources and conflict financing; the shifting nature of state effectiveness in the context of natural resource agreements; the link between resource conflict and climate change; and the impact of conflict over natural resources on the multi polar global economy.

Efficient frameworks exist on security management in conflict prone areas due to resource sharing. The Unifying Negotiation Framework (UNF) was advanced by Daniel, Walker, and Emborg (2012) as a tool of social negotiation among conflicting discourses providing a multi-faceted design of enhanced peace building process. This framework aids designers and implementers of security management to better put and investigate complex natural resource-based struggles that build firm foundations in redress of conflict challenges.

There is a legal and institutional framework in Africa that is supposed to deal with natural resource conflicts and either resolve or manage them. These institutions include the courts of law, tribunals under various Acts, Environmental Complaints Committee, Environment Tribunal and other various informal community-based resource governance bodies. The existing legal mechanism for managing natural resource conflicts as enshrined in the environmental law statutes include the courts of law both under civil and criminal law, the Environment Tribunals, Arbitral tribunals, Statutory tribunals set up under various laws and customary law systems of conflict management (Ejizu, 2016).

Some of the above conflict management mechanisms and institutions have not been very effective in managing natural resource conflicts. Courts, for instance, are formal, inflexible, bureaucratic and expensive to access. They address strict legal rights rather than the interest of the parties. The court system is adversarial in nature with limited room for negotiation and agreement on issues of interest to the parties. Law itself, has at times been a source of conflict rather than a conflict solver since it insists on pursuing personal rights rather than reaching agreed compromise and implementation of various laws may also lead to conflicting outcomes (Tyler, 2015). This is not to say that personal rights are to be ignored for what would be seen as the greater good of the community. However, there are instances where realization of such personal rights may compromise the general stability of the society.

A bottom-top approach to natural resource management, including conflict management, creates an opportunity to involve the local people who may have insiders' grasp of the issues at hand. It is for this reason that this study advocates for use of conflict management approaches that incorporate public participation. Litigation, which is a state sponsored approach to conflict management, does not afford the affected parties a reasonable and fair opportunity to participate in finding a lasting solution. This is because, apart from the coercive nature of the process, litigation is also subject to other procedural technicalities which may affect its effectiveness (Ojwang, 2017).

The national legal systems have been associated with a number of limitations which include, inter alia: inaccessibility to the poor, women, marginalized groups and remote communities because of cost, distance, language

barriers, political obstacles, illiteracy and discrimination; failure to consider indigenous knowledge, local institutions and long-term community needs in decision-making; use of judicial and technical specialists who lack the expertise, skills and orientation required for participatory natural resource management. Conflicts need to be managed through interactive, participatory and inclusive approaches for the sake of balancing interests, power and adjusting parties' expectations, in order to avoid the potentially negative effects of conflict in a society. There is a need to strike a balance among the three component parts of a conflict, namely, goal incompatibility, attitudes and behaviour, in order to ensure a peaceful society where groups do not unduly use their power to suppress the perceivably weak groups or individuals.

Ethnic related violence is one of the security concerns that has made the security sector in Kenya to come under scrutiny. The security situation in Kenya faces drawbacks as a result of institutional capacity, limited resources, lack of skills to combat modern crime and diminishing public trust of the security institutions (Nyanchoga, 2017). However, a recent study by Kariuki (2016) observes that Kenyan constitution "envisages a situation where conflicts, and specifically the natural resource ones, should first be dealt with using Alternative Dispute Resolution (ADR) and (Traditional Dispute Resolution Mechanisms)"(TDRMs). Despite this, there has not been evidence of genuine attempts at taking up these processes in managing natural resource conflicts, which are still prevalent and a cause of concern.

Alternative Dispute Resolution (ADR) mechanisms include mediation, conciliation, negotiation and traditional/community-based dispute management

mechanisms. ADR methods have the advantages of being cost effective, expeditious, informal and participatory. Parties retain a degree of control and relationships can be preserved. Conflict management mechanisms such as mediation encourages “win-win” situations, parties find their own solutions, they pursue interests rather than strict legal rights, are informal, flexible and attempts to bring all parties on board.

As such ADR mechanisms allow public participation in enhancing access to justice as they bring in an element of efficiency, effectiveness, flexibility, cost-effectiveness, autonomy, speed and voluntariness in conflict management. Some like mediation and negotiation are informal and not subject to procedural technicalities as does the court process. They are effective to the extent that they will be expeditious and cost-effective compared to litigation. ADR Mechanisms are arguably most appropriate in enhancing access to justice as they allow the public to participate in the managing of their conflicts. This way less disputes will get to the courts and this will lead to a reduction of backlog of cases (Fenn, 2012).

TDRMs include informal mediation, negotiation, problem-solving workshop, council of elders, consensus approaches among others. It has been observed that where traditional community leadership was strong and legitimate it had positive impacts in promoting local people’s priorities in natural resource management. The traditional and customary systems for managing conflict are associated with a number of strengths which include: they encourage participation by community members, and respect local values and customs; are more accessible because of their low cost, their flexibility in scheduling and procedures, and their use of the local language; they encourage decision-making based on

collaboration, with consensus emerging from wide-ranging discussions, often fostering local reconciliation; they contribute to processes of community empowerment; informal and even formal leaders may serve as conciliators, mediators, negotiators or arbitrators; and finally, long-held public legitimacy provides a sense of local ownership of both the process and its outcomes (Shackleton, 2012). It is through ADR and TDRMs that mediation talks, and negotiations can be reached in a conflict situation.

Kipkemoi et al. (2017) assert that the measures taken by government to solve conflict and address security management in Tana River County include holding peace meetings, disarmament, sending government officials and imposing curfews. Other measures are establishment of new police posts, arrest of community members, and deployment of General Service Unit (GSU), setting up a commission of inquiry and sending food aid (Kipkemoi et al, 2017). The government has mainly dealt with the resource-based conflicts by deploying national security forces, arresting and trying culprits through legal processes (Martin, 2012). Thus, security concerns between the two communities should be based on strengthening the local capacity to manage resources and deal with conflicts (Weiss, 2004).

2.5 Challenges Encountered in Resolving Conflicts

Problems over land may cause a conflict to flare up again or may hinder stabilization and recovery after the violence is over. Conflicts often result in the widespread abuse (e.g., by armed groups) and violations (by state actors) of housing, land and property rights through large-scale evictions and displacement. All of these are tied to inadequate land tenure policies.

Land tenure refers to rules, norms and institutions that govern access to and control of land. Land tenure systems can be formal or informal, statutory or customary, permanent or temporary. Some are legally recognized, others are not. Some involve private ownership; others are based on common property. There is no single solution. Policy frameworks need to accommodate and build on customary norms and practices. It is often better to strengthen traditional administrative systems than to establish new, formal systems of land ownership. This is particularly true of communal and common-property lands, which are very important to the livelihoods of poor rural people. Mechanisms for securing indigenous peoples' rights to their lands are important to cultural survival (IFAD, 2015).

According to Daudelin (2012), "land is increasingly becoming a source of conflicts in Sub-Saharan Africa, where land access had traditionally been characterized as relatively unrestricted". Evidence shows that local "land conflicts can erupt into large-scale civil strife and political movements" (Daudelin, 2012). Factors, such as population pressure, differences in land use (agriculture versus livestock keeping) and development of urban settlements have seen a rise in conflicts. According to Cotula et al., (2014), "in many African countries, formal institutions for land administration were often simply superimposed on traditional structures without a clear delineation of responsibilities and competencies, implying that they lack both outreach and social legitimacy" A study in Uganda, however, shows that rural households experience small-scale land conflicts with relatives, neighbours, landlords, or local governments, and that such small-scale conflicts may have significant impacts on their agricultural productivity (Deininger and Castagnini, 2015).

According to Kipkemoi et al. (2017), divergent land needs are a source of insecurity than land tenure and minimum-security presence. However, the fact is that the root cause of the conflict stems from the worldview relative to land, when one group perceives land as personal property and the other perceives the same land as God-given and meant to be shared (Mohamed, 2015). The resource-based struggle that culminated into inter-tribal violence in the Tana River County in 2000/01 was related to the activities of the Land Adjudication Commission which began in 2000 to favor a liberal land policy based on individual ownership. The land adjudication program created a sharp split between the Pokomo and the Orma/Wardei. The Orma/ Wardei accused the Government of fueling ethnic conflict by imposing a liberal land tenure system without adequate consultation with the communities on an area where land was communally owned. They saw the program 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' (Weiss, 2004).

According to Kirchne (2013), the new land tenure legislation emphasized a notion of private ownership and development of land, in contrast to the notion of collective use without alienation, which was typical of most customary laws. These changes in the land tenure system explain the cause of conflicts over land in Tana River. The changes have also been blamed for individualization of land which has created more people without land and has generated new types of disputes over ownership (Mohamed, 2015). According to the constitution, land is now classified in three different types, that is, Private Land, Community Land and Public Land, while Private Land is held under freehold or leasehold (GoK, 2010). Community Land is legally registered, transferred, declared, held, managed or

used by a community, ancestral lands or land lawfully held as trust land by the county governments. Currently the land tenure mechanisms in the region have increasingly replaced communal land ownership by individual or private ownership (Badurdeen & Omalenge, 2015).

Most of the land in Tana River County has not been adjudicated yet with 90% of the land either being trust land or government land. The inhabitants, therefore, do not have land title deeds which can be used as security. This is a major loophole to land prospectors to acquire land at the expense of the locals; which is a potential source of conflicts. This has been the case with land along LAPSSSET corridor and county headquarters (CIDP, 2018).

2.6 Research gaps

The review literature has presented an overview on natural resource-based conflicts through access to renewable natural resources. The reviewed studies have assessed the role of environmental resources as a causal factor in conflict, land tenure policies and security management through an examination of common-pool resources in Tana River County.

The studies reviewed, however neglected improving cooperation in the management of natural resources which is increasingly seen as an important element in strategies for peace building. The literature also neglects the historical, societal and political contexts of conflicts in Tana River County. The reviewed literature does not explain how economic and social conflicts arise through migration. The migration could be forced, or the seasonal migration by the Orma community in search of grazing land and water for their livestock or through

intercommunity disputes. Reviewed literature has also demonstrated how both the global and local security community is quite and pays no attention to non-renewable resources like oil and minerals. There is also neglect by research on how the national and/or county security agencies are charged with dealing with issues related to renewable natural resources. The Kenya National Police Service, for instance, has the Anti-Stock Theft Unit (ASTU) entirely meant to deal with cattle rustling.

The proposed study therefore filled in these gaps by analyzing the nature of conflicts between the pastoralist Orma and agropastoral Pokomo communities in Tana River County. It also assessed the security threats associated with natural resource-based conflicts in Tana River County by examining the link between natural resource use and security in Tana River County.

In addition, the study examined the conflict management approaches used in Tana River County.

2.7 Theoretical Framework

The theoretical framework for this study was based on the premise that throughout history, struggles over territory has caused conflicts among communities. Ngwu and Chukumwa (2019) suggest that contemporary boundary disputes are motivated by the control, in part, of natural resources. The study adopted two theories: the structural conflict theory and the neo-Malthusian theory.

2.7.1 The Structural Conflict Theory

To appreciate the source of natural resources-based conflicts, the starting point would be to conceptualize social structure, a concept that represents a perspective of looking at the sociological universe. The notion of social structure was extensively developed in the 20th century, with key contributions from structuralist perspectives from Claude Lévi-Strauss and functionalist perspectives as developed by Talcott Parsons (Martin & Lee, 2015). Taken as relationship between different entities or groups or as enduring and relatively stable patterns of relationships (Martin & Lee, 2015), Social structure emphasizes the idea that society is grouped into structurally related groups or sets of roles, with different functions, meanings or purposes.

Social structure may be seen to influence important social systems including the economic system, legal system, political system, cultural system. Thus, social structure can be considered as the patterned social arrangements in society. Such arrangements emanate from and are determinant of the actions of societal members. As (Fabrizio, Juan, & Miguel, 2006) argue, any phenomenon we observe in any human society results from the social structure that unites such societies. The existing social structure in any society – whether at the macro or micro level of society – determines the type of interaction and/or co-existence among members of the community.

The constant conflicts between the Orma and Pokomo communities in Tana River County can be explained through the theories of conflicts. These are perspectives that view societies from a materialistic point of view hence the existing social structures. Proponents of conflict theories draw their perspectives

from Karl Marx social conflict theory, which is based on dialectical materialist account of history among groups. The materialist nature of societies can be explained by the structural theory of conflict. The theory has both the radical structural orientation represented by the Marxist dialectical school and liberal structuralism (Garltung , 1990; Ross, 1993). Natural resource-based conflicts can be explained through liberal structuralism. As Garltung (1990) argues, social structures in society can create structural violence when members of the society are prevented from meeting their basic needs. Structuralists thus sees incompatible interests based on competition for resources which in most cases are assumed to be scarce, as being responsible for social conflicts (Collier, 2002:2)

The structural theory attempts to explain conflict as a product of the tension that arises when groups compete for scarce recourses. The central argument is that conflict is built into the particular ways societies are structured or organized. It describes the condition of the society and how such condition or environment can create conflict. Structural conflict theory identifies such conditions as social exclusion and deprivation as a cause of conflict (Oakland, 2005).

This study adopts Mills perspective of conflict. Regarded as the founder of modern conflict theory (Knapp, 1994), Mills theorizes that social structures are created through conflict between people with differing interests and resources. This perspective by mills is further articulated by Sears (Sears, 2008), who argues that societies are defined by the inequality that produces conflict. In this regard, the disadvantaged members of a community tend to have structural interests which run counter to the status quo which they once assumed. The two communities,

Orma and Pokomo, can be regarded to have two distinct status quo – the pastoralist Orma and the crop-farming Pokomo. In search of water and grazing pasture for their livestock, the Orma invade the farms of the Pokomo along the Tana River Delta region thus leading into conflicts.

The structural conflict theory focuses on the competition between groups within society over scarce or limited resources. It, however, does not explain how these conflicts arise. In this regard, the study adopts the new-Malthusian to explain how population pressure and resource scarcity can lead to conflicts.

2.7.2 The neo-Malthusian theory

Access to natural resources has variously been perceived as the security risk of the twenty-first century. The role of natural resources in conflict has been viewed through two theories: abundance (United States Institute of Peace, 2007, p11) and the other one points to scarcity. Empirical and theoretical literature presents a divergent view on the nexus between natural resources and conflicts. In an attempt to establish the most relevant explanation conflicts, certain scholars like Nathalie (2015) have theorized that conflicts are driven by the abundance of resources. In his work “Explaining occurrence of conflicts: clashes of cultures or abundance of resources?”, Nathalie (2015) popularizes the resource abundance-conflict theory in which case an abundance rather than a scarcity of economic means, or natural resources, increases the risk of civil war emergence (Ibid:14). In a review of literature on natural resources and conflicts, Mildner, Lauster, and Wodni (2011) established that resources were the second most conflict item in 363 conflicts recorded in 2010. As Mildner, Lauster, and Wodni (2011) argue, the reason resources are linked to conflict is that they occur together with other

conflict items like territory, autonomy, ideology and predominance. In Sub-Saharan Africa, for instance, evidence shows that resources dominate conflict items far more than other regions of the world – in 2010, 38 percent of resource-based conflicts were from this region (HIIK, 2010).

In support of the resource abundance-conflict theory, Christa and Erwin (2009) challenge the economic perception that abundance of natural resources leads to economic development without considering other links to existence of these resources. These authors rather argue that in the 1990s, three dimensions emerged on how abundance of resources can negatively affect society. Christa and Erwin (2009: 651 - 652) claim that natural resource abundance has been associated with slower economic growth in some cases, violent civil conflicts, and undemocratic regime types. They offer empirical contribution from cross-section analysis as prove that dependence on natural resources tend to magnify the risk of violent conflicts among communities.

This study considered the second view which points to scarcity of natural resources as a cause of conflicts in Tana River County by adopting the neo-Malthusian theory. This theory disapproves Malthus view that rapid population growth would exceed resource base leading to environmental destruction and violent conflict (Gleditsch, Peter, Mikael, Margareta, &Håvard, 2002). There are counter arguments to Malthus' view, some on the basis that on the global context, natural resources are not really scarce (Lomborg, 2001). Another argument is that even if some resources would get scarce, people can adopt to challenges posed by such scarcity.

In adopting the neo-Malthusian view on the link between the scarcity of natural resources and conflict, the study considers the premise that population-induced resource scarcity can cause violent conflicts (Henrik, 2005). The neo-Malthusians argue that factors like environmental degradation, resource depletion, and unequal resource access impoverish people (Colin, 2002). When this happens, the result is income inequality especially in low-income countries. It is important at this juncture to note that, often, natural resources that are essential for societal survival are unevenly distributed. In this regard, the uneven distribution of resources can make communities feel deprived of livelihoods thus increasing the risk of societal conflict (Colin, 2002). In other cases, scarcity of some natural resources may occur, albeit temporarily. For instance, droughts and dry spells in Tana River County make water and grazing pasture become unevenly distributed thus making the Orma invade the Pokomo farms along the Tana Delta in search of the same.

Proponents of the neo-Malthusian theory like (Homer-Dixon, 1999) have identified different sources of resource scarcity that lead to conflict. This is the limitation with the structural conflict theory since it does not address the origin of natural resources-based conflicts. Homer-Dixon (1999: 48) argues that one of these variables is population growth, which is an important source to demand-induced scarcity. This is because when a resource base is constant, its availability per person diminishes since it has to be shared. This resonates well with scarcity of water and pastures in the Tana delta whose scarcity can and does trigger conflicts among the Orma and Pokomo communities. Homer-Dixon and Blitt (1998) argue that the livelihoods of large populations in low-income countries are dependent on among other resources fresh water and cropland. When these

resources become scarce for whatever reasons, it is likely to cause scarcity. Scholars like (Lomborg, 2001) have challenged this view that population pressure and resources scarcity can lead to scarcity. As earlier presented, they argue that society can adapt to these changes or innovate through technology to spur production.

However, this argument by (Lomborg, 2001) can be counter challenged on the grounds that this is not easily achievable in low-income countries. Such regions lack enough capacity to deal with environmental challenges or scarcity. Due to this challenge, Homer-Dixon (1999) and Kahl (2002) have argued that population growth leads to demand-based scarcity, the nexus between natural resource scarcity and conflict is real in low income countries like Africa. Demand-based scarcity in Tana River County can be as a result of migration resulting to conflicts and rivalry in the host community.

The study investigated how attributes of resources (scarcity, observability, and distribution of resources); attributes of resource users (socioeconomic characteristics, ethnicity, resource competition and management of shared resources); and governance arrangements for natural resources influence security in Tana River County. These variables are conceptualized in section 2.7.

2.8 Conceptual Framework

Natural resource-based conflicts in Tana Rive County can be linked to the demise of open access regimes since the 1980s (Galvin, 2009) due to the fragmentations of rangelands and the establishment of enclosures. The concept of open access regimes is akin to the common property resources (CPR) which

constitute all such resources meant for the common use of villagers, collectives or a community without any exclusive individual ownership or access right. Open access previously contributed significantly to the rural economy in multiple ways. For the last several decades, such resource base in Kenya has been eroded mainly due to diversification of land use, non-regulation of encroachments, or the non-recognition of rights of pastoral communities (Bollig & Lesorogol, 2016). However, there seems to be erratic and non-institutionalized re-assertions of the open access in Southern and East Africa (Bollig

&Lesorogol, 2016) as witnessed in by the invasion of ranches by pastoralists in Laikipia County, Kenya. Coupled with gradual environmental change and social and economic drivers, Tana River County has witnessed scarcity of natural resources which ultimately caused a change in access of these resources. The Pokomo and Orma communities have been at the centre of these conflicts thus affecting management of security in the region. Figure 1.1 shows how the different variables are inter-connected and their relevance in offering a comprehensive understanding of how conflicts influence security management in Tana River County.

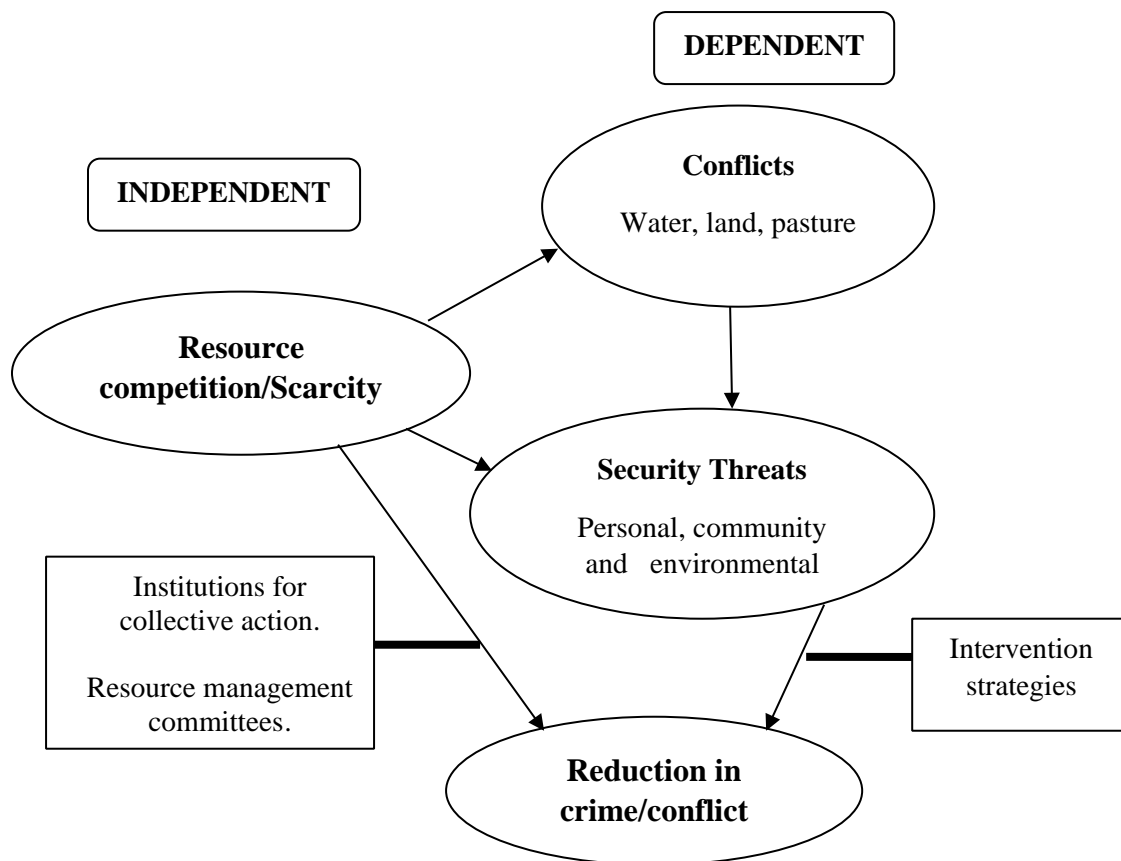


Figure 1.1 Conceptual framework

The current land tenure systems not only on Kenya but in Africa may not be well-equipped to resolve conflicts. As Kirchner (2013) argues, the different land tenure systems in existence in Africa (private, communal, state) complicate land adjudication and this is a possible trigger of violent conflicts. This is especially the case in Tana County with the Tana River Delta being an important wetland for the or both the Orma and Pokomo communities (Terer, Ndiritu, & Gichuki, 2004). On the one hand, the Pokomo use the riverbanks for cultivation. Access to land by the Orma pastoralist community in Tana Rive County is a means of livelihood as well as a source of survival. The Orma migrate to the Tana River in search of water and grazing land during dry spells. Often times, the migratory movements of the Orma have led to destruction of Pokomo crops by Orma animals leading to conflicts between the two communities (Andres, 2013;

Gleick & Heberger, 2014). The neo-Malthusian view on conflicts further explains the role of natural resources in conflict, particularly when rapid population growth and unequal resource access to resources lead to poverty. In four decades 1989 – 2019), the population of Tana River County increased by 41 per cent from 128,426 in 1989 to 324,054 in 2019 (KNBS, 2019). The study shall therefore assess how natural resource-based conflicts have influenced security in Tana River County.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This section presents the methodology used. The study was both qualitative and quantitative in nature. Therefore, it integrated quantitative and qualitative designs, data collection and analysis techniques. The basic idea of this methodology is that the integration permitted a more complete and collaborative utilization of data than when separate quantitative and qualitative data collection and analysis techniques are used (Creswell, 2012; Creswell & Plano Clark, 2011). These approaches are discussed in the subsequent sections.

3.2 Research Design

The study adopted the mixed methods design through qualitative and quantitative viewpoints. According to (Johnson & Larry, 2017) mixed methods approaches provide methodological flexibility and are adaptable to many study designs. Using Creswell's and Plano Clark's (2011) typology, the study adopted the convergent parallel design where "the quantitative and qualitative strands of the research are performed independently and their results are brought together in the overall interpretation" (Schoonenboom & Johnson, 2017: 117). For this typology, cross-sectional survey design was used to collect data from household heads in Tana River County. This type of design made it possible to collect data to make inferences about the target population one point in time; cross-sectional surveys being snapshots of the populations about which they gather data (Elliot, Fairweather, Olsen, & Pampaka, 2016). The second strand was the

phenomenology which made it possible to focus on subjective experiences of the conflicts between the Orma and Pokomo communities. Thus, it was possible to understand the structure of those lived experiences.

3.3 Site Selection and Description

The study was carried out in Tana River County in two locations: Ngao in Tarasaa Division, and Kilelengwani in Kipini Division. The choice for this study locale was guided by the fact that the region has experienced persistent natural resource-based conflicts, particularly from 2013. In Kilelengwani for instance, the conflicts led to the death of 53 people, 9 of whom were police officers. Tana River County has an area of 35,375.8 square kilometres and a population of 315,943 (KNBS, 2019). The capital and largest town is Hola (sometimes known as Galole). The major ethnic groups are the Pokomo, Orma, Wardei. The county is generally dry and prone to drought. Rainfall is erratic, with rainy seasons in March–May and October– December. In Tana River County, there are frequent conflicts between the Pokomo and Orma especially during the dry season ((Carranza, Katembu, & Miriti, 2017)). The Orma are pastoralists while the Pokomo are agropastoral, and most Pokomo farming activities are carried out along the Tana River. The conflicts result from disputes over grazing blocks and water resources.

3.4 Target Population

The target population were household heads from Ngao and Kilelengwani villages in Ngao and Kilelengwani divisions respectively. These are areas that have experienced frequent resource-based conflicts more than the other regions in Tana River County. Household heads were the ideal population to sample from since in Tana River County, they mainly control land either individually or as

members of the council of elders. A study by Carranza, Katembu, and Miriti (2017) established that in Tana River, “the councils of elders were effective institutions...trusted to manage community land on behalf of the communities”. The council of elders undertake land allocation and conflict resolution. These being the case, household heads were best placed to respond to how natural resource-based conflicts influence security in Tana River County. The other category of study participants were the County Commissioner, Deputy County Commissioner, the Assistant County Commissioners, Chiefs and Assistant Chiefs. The third categories of the population were being the Divisional Commander and Station Commanders from the National Police Service.

3.5 Sampling Procedures and Sample Size

The first part of this section demonstrates how the desired sample size was determined while the second part explains how the sample selection for the study participants was done.

3.5.1 Sample Size Determination

The sample for the household heads was determined using Slovin’s formula (Ryan, 2013), which allows the calculation of an ideal sample given the desired level of precision, desired confidence level and the population (N). The

formula is:

$$n = \frac{N}{(1 + Ne^2)}$$

where, n = the desired sample,
N = total population, and
 e = the error tolerance

In this study, the confidence level is 95% and therefore $e = 5\%$ or 0.05. The total number of households in Ngao and Kilelengwani village is 4,000 and 4476 respectively, and so $N = 8,476$. Therefore,

$$n = \frac{8476}{(1 + 8476 \times 0.05^2)}$$

$$= 381.9739 = 382.$$

The sample for the household heads was 382. The samples for the other study participants were determined purposively as: 1 County Commissioner, 1 Deputy County Commissioner, 3 Assistant Commissioners, 1 Divisional Commander, and 3 Station Commanders. The sample composition for this study is as shown in table 3.1.

Table 3.1 Sample size determination

Category of study participants	Population	Sample size
Household heads (Ngao and Kilelengwani)	8,476	358
County Commissioner	1	1
Deputy County Commissioner	3	1
Assistant Commissioners	9	2
Divisional Commander	3	1
Station Commanders	8	2
Chiefs	53	2
Assistant Chiefs	109	15
Total	8,662	382

3.5.2 Sample Selection

Sampling was done through both probability and non-probability sampling. The first step in selecting the household heads was to determine how many participants shall be drawn from each location. Proportionate sampling was used to select study participants from the two locations. Ngao Location has 4,000

households and Kilelengwani has 4476 households (KNBS, 2019). Proportionately, Ngao contributed 47.19% while Kilelengwani contributed 52.81%. Since the desired sample is 382, the household heads from Ngao Location were 180 and 202 from Kilelengwani. The second step was to select the household heads to participate in the study. The researcher used the list of households for the two divisions from the Assistant Commissioners as a sampling frame. Through simple random sampling, the researcher selected the study participants using a random number generator. The key informants were selected purposively.

3.6 Data Collection instruments

Data was collected through a questionnaire, interview guide and a focus group discussion guide. The questionnaire was used to collect data from household heads, and it was self-administered or in some other cases, enumerators filled in the responses due to illiteracy of participants or low educational levels. The questionnaire was appropriate since it made it possible to examine the influence of resource-based conflicts on security in Tana River County. The interview guide collected data from key informants. Secondary data was collected from relevant reports, theses, dissertations, books, and journals. Relevant government reports and policy documents were reviewed to complement primary data.

3.6.1 Data Collection Procedure

Data from household heads was collected by 10 enumerators who were trained for the surveys. The enumerators administered the questionnaires to the household heads to fill in. For those respondents with low levels of education, the enumerators asked those questions from the questionnaire and record their

responses. The key informants were interviewed through an interview guide. The researcher recorded their responses through note-taking and audio recording.

3.7 Validity and Reliability of Data Collection Instruments

Validity is the degree to which results obtained from the data analysis actually represent the phenomena under study (Mugenda & Mugenda, 2012). It is concerned with the accuracy or truthfulness of a measurement. To enhance validity, the researcher carried out a pilot study. This involved selecting 10 % of the sample size and administering the questionnaires to them. This helped the researcher identify vague questions, rephrase them, clarify unclear instructions, and improve other deficiencies in the questionnaires, such as numbering, spacing, and response options. The questionnaires were divided into three sections to achieve construct validity, each capturing information on the different objectives. Experts in security management were also used to further validate the data collection instruments.

According to Mugenda and Mugenda (2012), reliability is a measure of the degree to which a research instrument yields consistent data results after repeated trials. The test-retest technique was used to ascertain reliability. The same instrument was administered twice to the same group of subjects after a given time-lapse. The scores were then subjected to Cronbach's Alpha Coefficients of reliability (Drost, 2011).

The formula for Cronbach's alpha is:

$$\alpha = \frac{N \cdot \bar{c}}{\bar{v} + (N - 1) \cdot \bar{c}}$$

Where:

- n = the number of items.
- \bar{c} = average covariance between item-pairs.
- \bar{v} = average variance.

Study findings revealed a Cronbach's Alpha coefficient of 0.795, implying that the study's data collection instruments were 79.5% reliable. This was much higher than the threshold of 0.7 reliability acceptable in behavioural sciences.

3.8 Data Management and Analysis

Data obtained from the field was edited and cleaned to ensure accuracy, completeness, and comprehensibility and coded for ease of analysis. Study data were analyzed using both descriptive and inferential statistics with the aid of the Statistical Package for the Social Sciences (SPSS) version 23 for windows. Descriptive statistics was computed to summarise and explain data and was presented in the form of frequencies, percentages, and mean. Inferential statistics included used in the study was Chi- Square and measured influences between and among variables to address the study objectives to describe the influence of resource-based struggles on security management in Tana River County. Analyzed data was presented descriptively in form of figures and tables.

3.9 Ethical Considerations

Mugenda and Mugenda (2012) defined ethical considerations as the rules and regulations that the researcher must adhere to when conducting research. In conducting this research, the researcher observed several ethical considerations, including administering informed consent forms to respondents, assuring the participants' confidentiality and anonymity before administering the tools, and

ensuring that the tools were administered only to respondents who were voluntarily willing to participate in the study.

The researcher encountered concerns over interviews of victims some of whom are still traumatized. It was an ethical issue because it was likely compromise on honesty from the respondents. However, the researcher interviewed diverse people and only used corroborative information in concluding this research. The researcher also encountered confidentiality issues whereby respondents were unwilling to provide information for fear that it can be used against them. The researcher however explained to the respondents the purpose of the research, benefits and that they could chose to quit anytime if they so wish. The respondents were also assured that their identity will not be disclosed through the use of code names.

CHAPTER FOUR

PRESENTATION, INTERPRETATION AND DISCUSSION OF FINDINGS

4.1 Introduction

This chapter presents the background characteristics of the respondents. In the first section of the chapter, survey data were summarized and organized using descriptive statistics. The demographic and background characteristics of the respondents are presented in the first section of the chapter.

4.2 Background Characteristics of Respondents

The background characteristics of the respondents are presented in Table 4.1.

Table 4.1 Background characteristics of the respondents

	Frequency	Percent	Valid percent	
Age	<= 18	3	.9	.9
	19 - 24	32	9.4	9.4
	25 - 30	39	11.5	11.5
	31 - 36	53	15.6	15.6
	37 - 42	67	19.8	19.8
	43 - 48	36	10.6	10.6
	49 - 53	51	15.0	15.0
	54 - 59	25	7.4	7.4
	60 - 65	15	4.4	4.4
	66 - 71	15	4.4	4.4
	72+	3	.9	.9
Total	339	100.0	100.0	
Sex	Male	207	61.1	63.1
	Female	121	35.7	36.9
	Total	328	96.8	100
	Missing	11	3.2	
Total	339	100		
Marital status	Single	70	20.6	21.4
	Married	257	75.9	78.6
	Total	327	96.4	100.0
	Missing	12	3.5	
	Total	339	99.9	
Ethic group	Pokomo	242	71.4	
	Orma	85	25.1	
	Wardei	12	3.5	
	Total	339	100.0	
Religion	Muslim	115	33.9	34.0
	Christian	222	65.5	67.7
	Other	1	.3	.3
	Total	338	99.7	100.0
	Missing	1	.3	
Total	339	100.0		
Level of education				
Primary Incomplete	30	8.8	9.0	
Primary School	40	11.8	12.0	
Secondary Incomplete	26	7.7	7.8	
Secondary School	124	36.6	37.2	
Tertiary College	74	21.8	22.2	
University	22	6.5	6.6	
None	17	5.0	5.1	
Total	333	98.2	100.0	
Missing	6	1.8		
Total	339	100.0		

Source: Field data (2020)

Study findings revealed that most respondents (19.8%) were aged between 37 and 42 years while the least number was between 60 and 71 years. This scenario offers Tana River County the opportunity to nurture the younger members of the community to grow up respecting tribal diversity while embracing peace. Study findings revealed that 61.1% of the respondents were males signifying that there generally a large number of males living in Tana River County.

Having found out from literature that men are generally violent compared to women, there is need for targeted conflict resolution approaches that focus on men as compared to those that focus on women. It was also revealed based on the study finds that 75.9% of the respondents were married people. Given the extent to which conflict and insecurity can destabilize families, there is need to preach the gospel of peace using the family platform as a source of concern to all that love the institution of family. Results found that 65.65 of the respondents were Christians while 33.9% were Muslims. This shows that given the role of religion in bringing out peace and coexistence, strategies for conflict resolution ca also be explored from the religious standpoint. Further still 37.2% had completed secondary school while 22.2% had completed tertiary education. Given the extent to which education shapes character, most residents of Tana River County can effectively participate in peace building initiatives with a reasonable degree of clarity.

4.2 The nature of conflicts between the pastoralist and agro-pastoral communities in Tana River County

The first objective of the study was to establish the nature of conflicts between the pastoralist Orma and agro-pastoral Pokomo communities in Tana River County. Data were collected by establishing whether respondents had witnessed conflicts in Tana River County within a period of 36 months. Respondents would also indicate the type of weapons used by the perpetrators of conflicts. Data was also collected on the type of resource that led to conflicts, the natural resources led to conflicts and the specific period when conflicts were most prevalent in Tana River County.

Out of the 339 respondents, 97.9 per cent indicated that they had witnessed natural resource based conflicts in Tana River County within 36 months prior to the time the study was conducted, 2.1 per cent stated they had not witnessed any conflicts while 0.6 per cent did not respond to the question. This finding collaborates other studies that show that post-colonial Kenya has experienced natural resource-based conflicts like the Kajiado group ranches and the Tana Delta 2001 land adjudication (Bavinck, Mostert, & Mostert, 2014; Weiss, 2004)

Other studies that have reported natural resource-based conflicts in Tana River County include Kirchner (2013). The study findings link natural resource conflicts with political elements like elections. Kirchner (2013) established that though inhabited by the Orma and Pokomo communities, Tana River County “is a fall back area for pastoralists from as far as Ethiopia”. Due to these migrations to the Tana delta in search of pasture and water, the area has witnessed conflicts, a case in point being 2012 – 2013 (Kirchner, 2013). Carranza, Katembu, and Miriti

(2017) also confirm that Tana River County has witnessed conflicts where “the Orma and Pokomo communities cited frequency conflicts, especially during the dry season”. These findings reveal that natural resource-based conflicts have been persistent in Tana River County.

The study also sought to establish whether the conflicting communities used weapons during the conflicts as well as the type of weapons used. The findings are presented in figure 4.1.

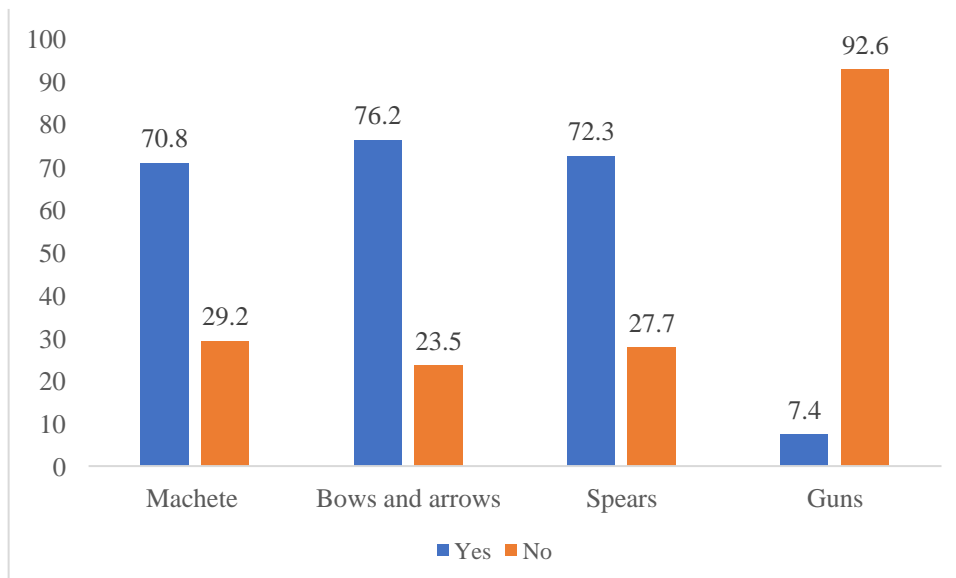


Figure 4.1: Types of weapons used during conflicts

The results show that four types of weapons (machetes, bows and arrows, spears and guns) were the commonly used during conflicts in Tana River. Over 70 per cent of the respondents reported having seen three types (machetes, bows and arrows, spears) being used compared to only 7.4 per cent who indicated that guns were used. These findings are in agreement with Weiss (2004) who found out that the weapons of choice during conflicts included clubs, spears, and bows. The use of arms during conflicts was not a new phenomenon in Tana River County since previous studies

confirm the use of arms by both the Orma and Pokomo communities during conflicts. These include Kipkemoi , Nyamasyo , and Musingi (2017) who established that conflict in Tana River county had transformed and was beyond local solutions due to the proliferation of small arms and resource depletion among other reasons. Shaiye (2012)and (Weiss, 2004)report one of the reasons for insecurity in Tana River County was as a result of proliferation of small and light weapons from the neighbouring Garisa and Ijara regions.

To understand the nature of conflicts in Tana River County, the study sought to find out the natural resources that were the cause of conflicts. Respondents were presented with six choices to indicate those that caused conflicts in Tana River County. These were water, pasture, land, forest products, wildlife, and fisheries. The results are presented in Table 4.2.

Table 4.2 Natural resources linked to conflicts

Natural resource	Conflicts		No conflicts		Total
	Frequency	Percent	Frequency	Percent	
Water	291	87.9	40	12.1	331
Pasture	324	98.8	4	1.2	328
Land	178	53	158	43	336
Forest products	17	5.6	284	94.4	301
Wildlife	19	6.0	299	94.0	318
Fisheries	9	2.9	303	97.1	28

The results show that out of the six natural resources, water, pasture, and land were highly likely to lead to conflicts in Tana River County. Pasture was rated at 98.8 per

cent with water and land rated second and third at 87.9 per cent and 53 per cent respectively. The results show that only 5.6 per cent of the respondents indicated that forest products led to conflicts while 6 per cent and 2.9 per cent respectively attributed conflicts to in Tana River County to natural resources. These findings agree with previous studies. For example, (Kirchner, 2013) points out that the Tana delta “is the fallback area for pastoralists...who migrate to the delta in times of drought in search for water and pasture”. The author identifies numerous causes of conflict in Tana River County among them “economic motives which connect to resources, including natural resources. Blake, Ruth, Candace and Eric (2013) also note that certain communities in eastern Zambia conflicts have arisen out of land disputes.

The study findings confirm that different interests in natural resource use in Tana River County is a major cause of conflict. as Kirchner(2013) states, farmer/herder conflicts are prevalent in rural areas in Africa, which indeed defines the occasional problems between pastoralist and agropastoral groups. The results in table 4.2 show that the Pokomo and Orma communities have different interests on both land use and water in Tana River County. The study went to further to find out ethnicity was independent of the source of conflict. The results of a crosstabulation of the three resources that were rated high (pasture, water and grazing land) are presented in tables 4.3, 4.4 and 4.5.

Table 4.3 Crosstabulation between ethnic group and water-related conflicts

Yes	No	Total	Water-related conflicts		
			Count		
Ethnic group			199	36	235
Pokomo % within ethnic group			84.7%	15.3%	100.0%
Orma			80	4	84
% within ethnic group			95.2%	4.8%	100.0%
Total			279	40	339
Count			82.3%	17.7%	100.0%
% within ethnic group					
Pearson Chi-Square			$\chi^2 (2, n = 339) = 8.203, p = .017$		
Cramer's V			.157		

The results from Table 4.3 show that 95.2 per cent and 84.7 per cent of the Orma and Pokomo communities respectively indicated that water led to conflicts in Tana River County. The crosstabulation further reveals that the association between ethnicity and reporting on water related conflicts was significant, $\chi^2 (2, n = 339) = 8.203, p = .017$. Therefore, at a significance level of 0.05, the conclusion is that the association between the variables is statistically significant. However, the association is a weak one, with Cramer's V = .157.

Crosstabulation between ethnicity and conflicts related to land use showed that 75.5 per cent and 68.5 per cent from the Pokomo and Orma communities respectively indicated that land use for crop farming did led to conflicts. The two variables were, however, independent of each other; $\chi^2 (2, n = 336) = 5.174, p = .075$. The results show that 75 per cent and 70.7 per cent of participants from Pokomo and Orma communities respectively indicated that grazing land did lead to conflicts. However, the two variables were also independent of each other; $\chi^2 (2, n = 336) = 5.174, p = .075$

The Pokomo and Orma communities heavily rely on water; the former for irrigation and the latter for their livestock. Studies have shown that globally, there is an increasing problem of water inequality, which has led to insecurity (Yulia , Alberto , Heijden, & Tim , 2017). In Tana River County, the Pokomo and the Orma communities cited frequent conflicts. The participants indicated that conflicts were frequent during the dry season (66%) while only 2.1 percent and 1.2 per cent indicated that conflicts occurred during harvest time and famine respectively. In addition, the findings show that within ethnic group, 64.5 per cent and 79.5 percent from the Pokomo and Orma communities cited that conflicts occurred during the dry spell. This is largely attributed to the fact that the Orma are pastoralists while the Pokomo are agropastoral. Most Pokomo farming activities are carried out along the Tana River hence conflicts result from disputes over grazing blocks and water resources (Bavinck , Pellegrini , & Mostert, 2014; FAO, 2017). This assertion is confirmed by the study findings. Participants were asked to explain how natural resources led to conflicts in Tana River County. 42 per cent of the participants stated that it was due to scarcity of natural resources, 45 per cent explained that it was due to grazing land while 11 per cent cited destruction of crops by the cattle of the Orma community. Comments from some study participants illustrate these opinions:

The pastoralists graze the cultivated produce (meaning crops in the farms) of the farmers and this leads to the conflicts [74-year-old farmer from Pokomo community]

During the dry season, the pastoralists move from one point to the wet lands in search of water and pasture. As the animals move, they destroy and feed on crops grown by farmers that lead to conflicts [66-year-old participant from the Pokomo community]

The conflicts arise when the pastoralists move their animals in search of pasture [53-year-old pastoralist from the Orma community]

Due to high demand for grazing land and crop farming, the pastoralists and farmers fight to have access to the land; each for their own use [36-year-old farmer from the Pokomo community]

These opinions by participants from the community members are supported by interviews from the key informants. For example:

Accessibility to water points and search for grazing land in Tana River County is one of the major causes of conflicts in this area [key informant 1, Sub- County Commander;]

Scarcity of natural resources, for example, pastoralists who are in search of grazing land especially during the dry season. Some of the affected areas are Kilelengwani, Chakamba area, ShauriMoyo and other areas...watering

points for animals are also scarce as well as arable land due to an increasing population [Key informant 4, Area Chief]

The results in this section validate the first theory used in this study; the structural theory. The structural theory attempts to explain conflict as a product of the tension that arises when groups compete for scarce resources. The central argument is that conflict is built into the particular ways societies are structured or organized. The starting point in testing this theory is to consider that Tana River County is composed of Pokomo, many of whom are farmers, and the Orma and Wardei. The county is generally dry and prone to drought and rainfall is erratic (Kirchner, 2013). The crop farming Pokomo community farm along the Tana delta while the Orma community move about the community in search of pasture and water for their animals. The conflicts result from disputes over grazing blocks and water resources (FAO, 2017). In addition, resource-related conflicts are witnessed when the Dagodie, Sheekhaal, Ogaden communities from the neighbouring Ijara in Garissa County passthrough Tana River land in search of pasture and water for their cattle(FAO, 2017). The results presented in this section have shown that water and grazing land were the two major causes of natural resource-based conflicts in Tana River County. Thus, due to competition for scarce resources (water and pasture), the ensuing tension culminates in conflicts in Tana River County.

4.3 Security threats associated with natural resource-based conflicts in Tana River County

The second objective of the study was to assess the security threats associated with natural resource-based conflicts in Tana River County. Data were collected from household heads and key informants. The study sought from participants the type of human security threats that were associated with natural resources in Tana River Country. Human security was categorized into three: personal security, community security, and environmental security. This categorization is based on the UNDP Human Development Report of 1994 and the HSU-OCHA (UN, 2009).

The results are presented in the following sub-sections.

4.3.1 Personal security threats

Personal security was operationalized by identifying five indicators: physical violence, crime, terrorism, child labour and forced migrations. The results are presented in figure 4.2.

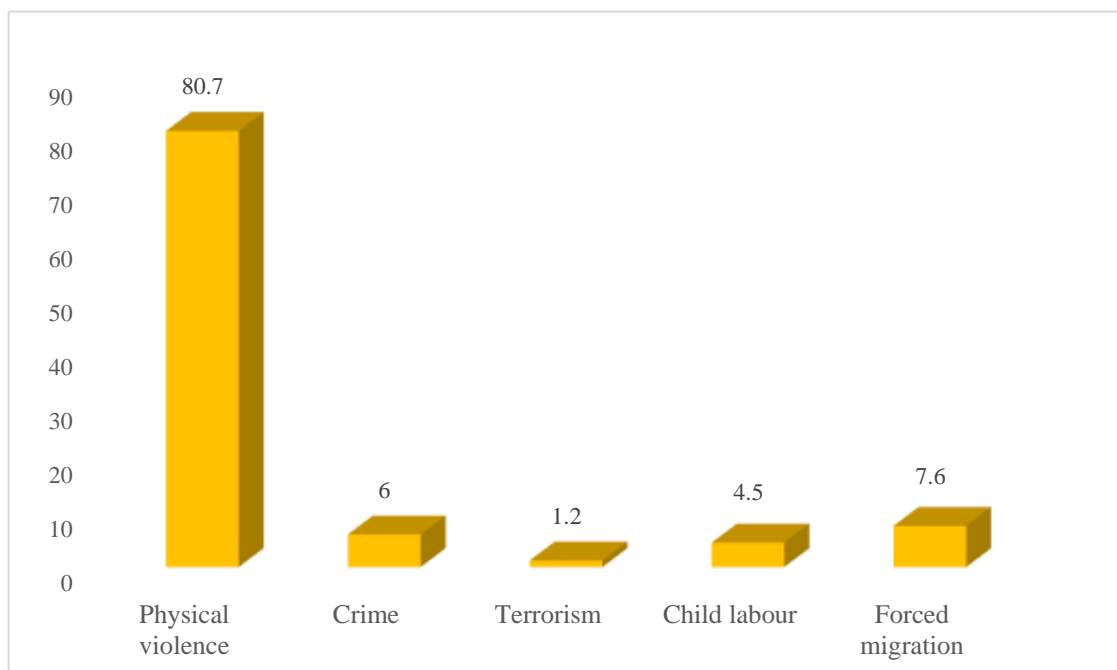


Figure 4.2 Personal security threats

The results show that 80.7 per cent of the participants cited physical violence as the common form of personal security experienced in Tana River County. These findings are in agreement with Owuor, Mauta, and Eriksen, (2011) on a study to investigate adaptation to climate variability and change. The study done in neighbouring Mwingi Sub-county, was delimited to how pastoral and agropastoral populations interact in adapting to drought. One of the key findings was that there were interactions between the pastoralist and agropastoralists as cattle moved to the plains during the rains and nearer to the hill during the dry season. Like in Tana River County, interaction between pastoralist and agropastoral over access to shallow wells and dry-season grazing led loss of livestock and human lives (Christine & Will , 2010; Owuor, Mauta, & Eriksen, 2011).

4.3.2 Community security threats

The indicators for community security were inter-ethnic and religious threats, loss of land or cultural and natural heritage, disruption of cultural practices and deterioration of livelihoods.

The results are presented in figure 4.3.

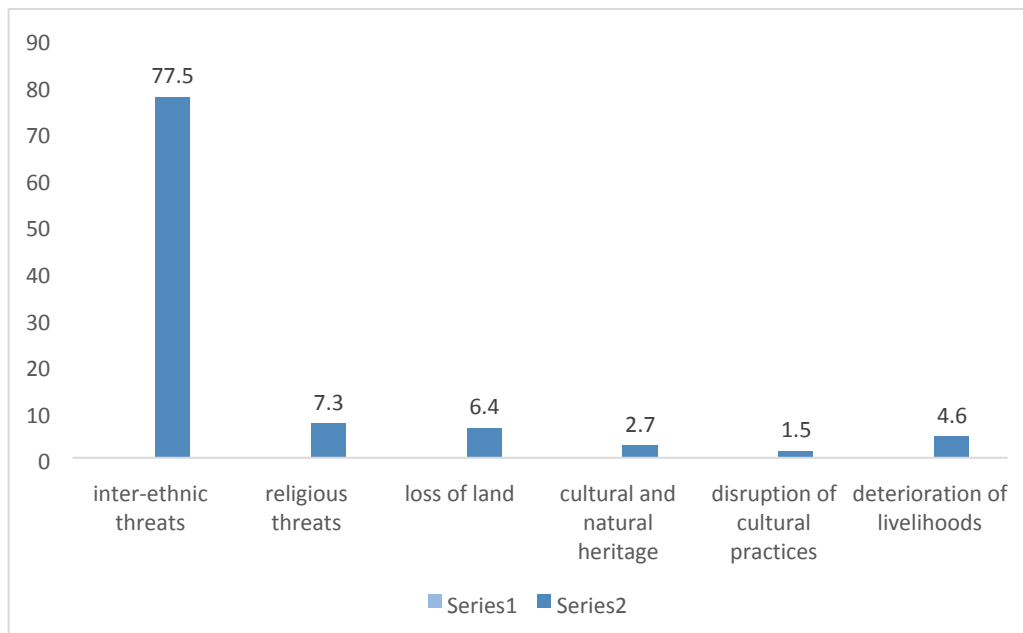


Figure 4.3 Forms of community security threats in Tana River County

The results show that the inter-ethnic threats were cited as the prevalent form of human security threat in Tana River County. Out of the six indicators of community security, 77.5 per cent of the participants indicated that inter-ethnic threats were associated with natural resources in the area. This can be explained by the interactions among various communities that are resident in Tana River County or move to the county in search of water and pasture for their animals. These findings are in agreement with observations in other related studies done in and out of Tana River County that these interactions among communities are not without problems.

For example, Lind and Eriksen, (2006) observe that a period of violent raiding and attacks on Kamba settlements by Somali groups occurred especially during the dry seasons. In Tana River County, Nicholas , Jacqueline , and Simon (2009) observe that “...with no coherent planning to manage land use there were regular

conflicts...,” in Tana River County and the cite a case in 2012 clashes between the farmer Pokomo and pastoralist Orma communities resulted in the death of 286 people.

4.3.3 Environmental security

The third form of human security was environmental security. The indicators were: environmental degradation, resource depletion, natural disasters, and pollution. The results are presented in figure 4.4.

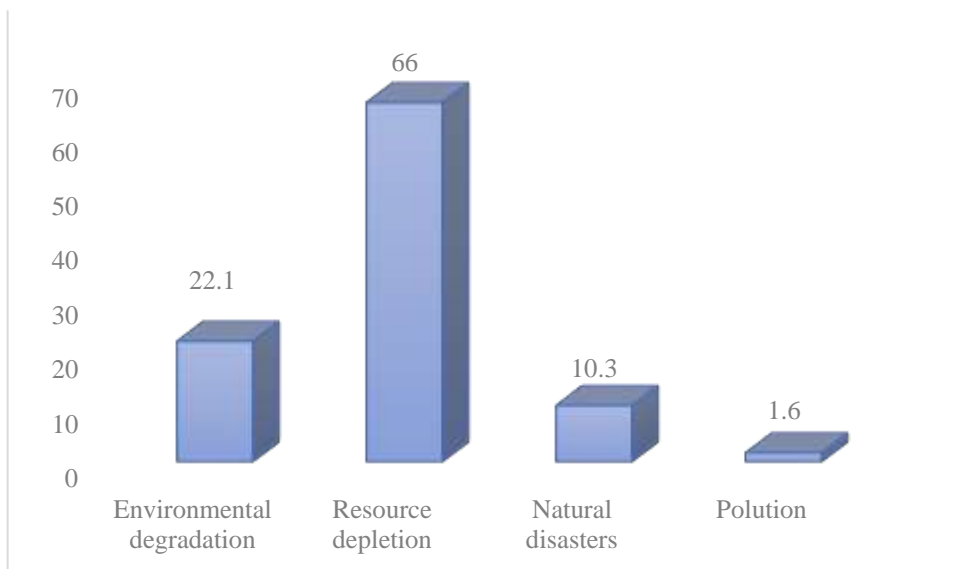


Figure 4.4 Forms of community security threats in Tana River County

The results in figure show that resource depletion was the most cited form of environmental security at 66 per cent while environmental degradation was second at 22.1 per cent. Resource depletion and environmental degradation have implications on the security of Tana River County since both the farming and pastoral communities since there is a nexus between scarcity of natural resources and conflicts. These results are supported by observations of the key informants, thus:

The scarcity for grazing land and water points for the pastoralists in this area has led to conflicts. Also, the land tenure policies where the land is not demarcated. There is also restriction by the Kenya Forest Service which denies pastoralists entry into the forests to graze their animals Key informant 2, Ward Commander]

Literature on environmental security views ecological processes and natural resources as sources or catalysts for conflict. In addition, as Scott and Thapa (2015) observes, scarcity of natural resources can act as barriers or limits to human well-being. When in abundance, natural resources act as means to mitigate or resolve in security.

These findings validate the second theory adopted in the study; the neo-Malthusian theory. The study findings have demonstrated that there is a link between scarcity of natural resources and conflict. The neo-Malthusians have premised that environmental degradation, resource depletion, and unequal resource access impoverish people (Colin, 2002). Environmental degradation and resource

depletion often leads to scarcity of some natural resources. For instance, dry spells make water and grazing pasture become unevenly distributed thus making the Orma invade the Pokomo farms along the Tana Delta in search of the same. Results in section 4.2 show that scarcity of water and pasture had contributed to conflicts in Tana River County.

4.4 Conflict management approaches used in Tana River County

The third objective was to establish the various conflict management approaches used in Tana River County. The study established that the communities have a traditional system of governance charged with security management in Tana River County. To examine the influence of the peace committees, participants' responses were recorded using a five-point Likert scale. The first item measured the effectiveness of the peace committees in peace building.

The results are presented in figure 4.5.

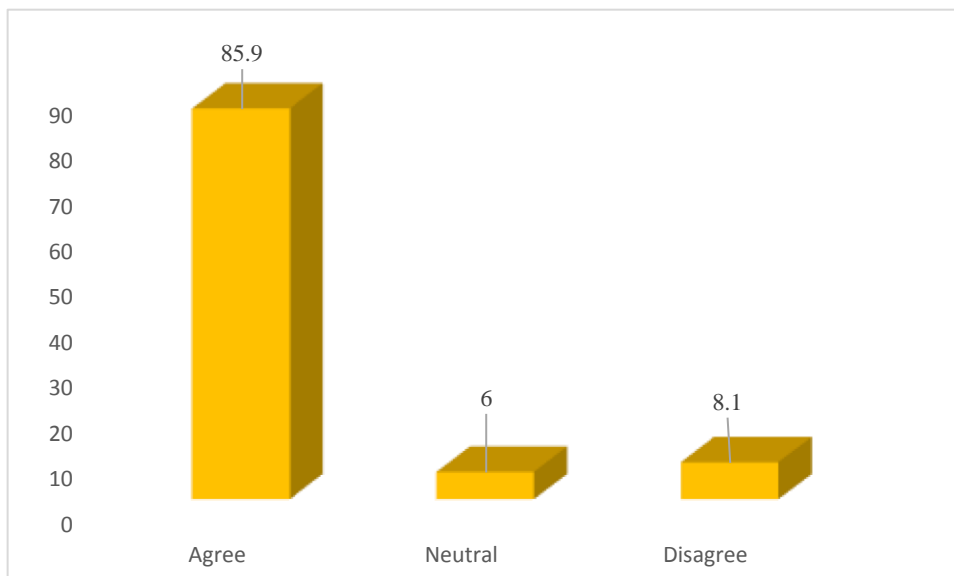


Figure 4.5 Effectives of traditional peace committees in peace building in Tana River County

The results show that 85.9 per cent of the participants observed that traditional peace committees were effective in peace building in Tana River County. Participants observed that the traditional system of governance was effective since 84.7 per cent of the participants felt that traditional leaders in Tana River County were major actors in the peace building process. Traditional systems of conflict management have been effectively employed to deal with land disputes in Zambia. Ajayi , et al. (2012) established that traditional chiefs were engaged in Zambia to manage land conflicts.

The results established that another 71.2 per cent of the participants observed that traditional leaders in Tana River County have been engaged in mediation when there were violent conflicts in the area. Overall, 69.2 per cent of the participants observed that the traditional system of governance in Tana River County was capable of ensuring security in the area. However, there were mixed opinions from the key informants on the effectiveness of the traditional peace committees:

The traditional peace committees are not effective because most of the leaders in these committees take ethnic sides and they have therefore lost credibility in the area [Key informant 1, Sub-county Police Commander].

This opinion differs from the observation by other two key informants who indicated that the traditional peace committees were effective. Key informant 2 (Headman) pointed out that the peace committees were partially effective. This was supported by key informant 3, who stated thus:

The traditional system of governors, who we term as council of elders, are very instrumental in community matters...they are usually incorporated in peace and security committees. However, in extreme situations, you find that members of these committees fall back to their communities [sic], that is, they end up taking sides [Key informant 3, Deputy County Commissioner].

The existence of the peace committees was confirmed by key informant 1, who stated thus:

The interventions that have been adopted in Tana River County include peace committees. These are structured from the Sub-location level up to the county level. There is also the use traditional council of elders. Other interventions used include having joint security meetings [key informant 1; Sub- County Police Commander].

On whether the peace committees were effective or not partially depended on the ethnic community. For example, 45.5 percent cent of participants from the Orma community agreed respectively that the peace committees were effective in dealing with conflicts in Tana River County. On the other hand, 83.7 per cent of participants from the Pokomo community agreed that the committees were effective. The relationship between ethnic group and opinion on effectiveness of peace committees was significant, $\chi^2 (8, n =334) = 17.6, p= .025$.

However, this relationship was weak (Cramer's $V = 0.162$). This association between ethnicity and opinion on effectiveness of security committees was observed by Kirchner (2013), who states that "Orma were convinced that peace committees were ineffective. Peace negotiations had, in their view, to be held by the elders. The members of peace committees were not seen as having authority and were said of not being serious about their peace efforts". Further, the study established that "members of the committees would pretend to promote peace, but in fact, as soon as they were with their own community, they would even incite people to fight"(Kirchner, 2013:89).

Traditional peace committees have been used elsewhere to a certain level of success. For example, Owuor, Mauta and Eriksen (2011) established that local peace committees worked in conjunction with the then provincial administration Mwingi District whenever conflicts arose between the Kamba community on one hand and the Orma and Somali communities. Pickmeier (2012) observed that peace committees were established in Tana River County in 2001. The peace committees then were formed to sensitize people after the 2001 clashes, settle disputes and to engage people in finding solutions. Pickmeier (2012) notes that one type of conflict the peace committees would settle frequently were those between the Pokomo farmers and Orma pastoralist communities. Peace committees are also in use in both Tanzania and Uganda, where in Tanzania they are referred to as village committees and work closely with the District authorities in order to ensure sustainable use of resources while in Uganda they are responsible for land disputes (Ogola, 2013).

The study also established that there were four conflict interventions that were commonly employed in Tana River County: traditional dispute resolution approaches, alternative dispute resolution, litigation, and police/community security meetings. The results are presented in figure 4.6

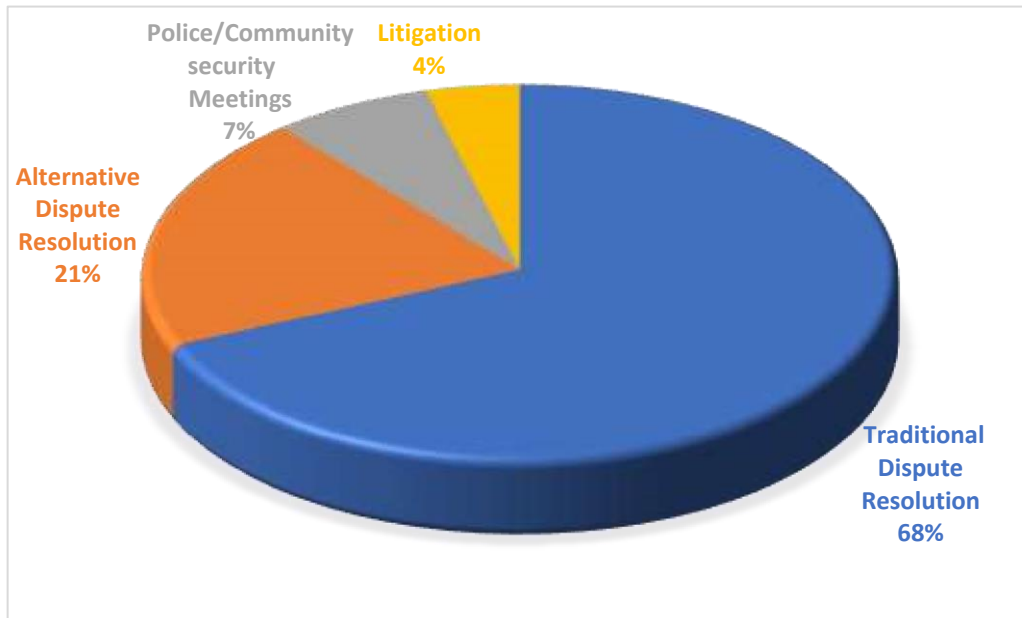


Figure 4.6 Conflict management approaches in Tana River County

The results show that traditional dispute resolution (TDR) mechanism was cited as the most popular approach to other approaches at 79 per cent. Alternative dispute resolution (ADR) was cited by 21 per cent of the participants while 7 per cent and 4 per cent cited police/community security meetings and litigation respectively. These results renovate with other findings which observe that TDR and ADR were common approaches in conflict management. For example, (UNEP, 2015) observes that TDR are appropriate as many disputes on natural resources involve local actors and “require local knowledge to resolve...In numerous instances, customary mechanisms already exist that handle such disputes or have the capacity to do so”.

A key participant observed the following:

There are several interventions that are used in in Tana River County include prosecution of offenders; both the pastoralists and farmers. As the National Police Service, we conduct security barazas. There is also community policing, use of peace committees as well as negotiation [key informant 2; ward commander].

The study compared the rating by participants on the effectiveness of the conflict resolution approaches in Tana River County through a five-point Likert scale. The results are presented in figure 4.5.

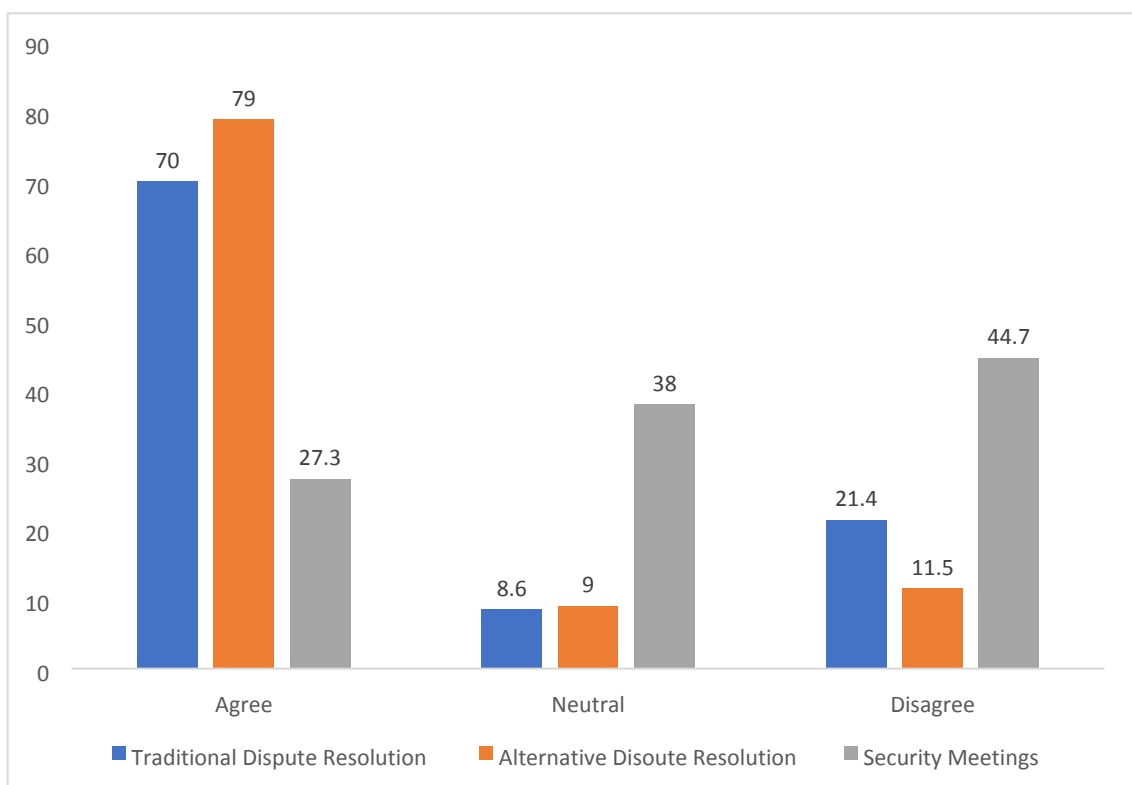


Figure 4.7 Rating of the effectiveness of the conflict resolution approaches in Tana River County

The results show that traditional dispute resolution (TDR) approaches and alternative dispute resolution (ADR) mechanisms were effective in Tana River County compared to security meetings between the police and community members. Results show 70 per cent and 79.5 per cent of participants agreed that TDR and ADR were effective while only 27.3 per cent agreed that security meetings between the National Police Service and community members in Tana River County.

Though the traditional dispute resolution approaches were cited as the most common in conflict resolution in Tana River County, there were some dissenting opinions. Participants were asked to rate the influence of TDR on security management in Tana River County. On the traditional peace committees, 13.8 per cent of the participants disagreed that they were effective in peace building while 13.9 per cent did not agree that the committees were major actors in the peace building process. In addition, 27.1 per cent of the participants disagreed that the peace committee members were engaged in mediation processes and thus were ineffective.

Overall, 9.5 per cent of this category of participants observed that the traditional dispute resolution mechanisms at certain times fuelled conflicts, especially on land disputes.

Other studies have also observed that traditional dispute resolution mechanisms have failed, though for different reasons. Oli and Michael (2015) observed that traditional dispute resolution approaches were not appropriate in settling disputes for local communities. Thus, there was the attendant risk of violent conflict partly due lack of an impartial outsider to bring antagonistic

4.5 Challenges encountered in solving natural resource-based conflicts in Tana River County

The fourth objective was to establish the challenges associated with solving natural resource based conflicts in Tana River County. The findings show that management of resource-based conflicts was hampered by two factors: the land tenure system and infiltration of small arms in Tana River County. Participants observed that land policies in Tana River County were inadequate. Out of the total, 86.4 per cent of the participants were in agreement that land policies were inadequate. Study participants observed that the land tenure system in Tana River County led to insecurity as shown in figure 4.6.

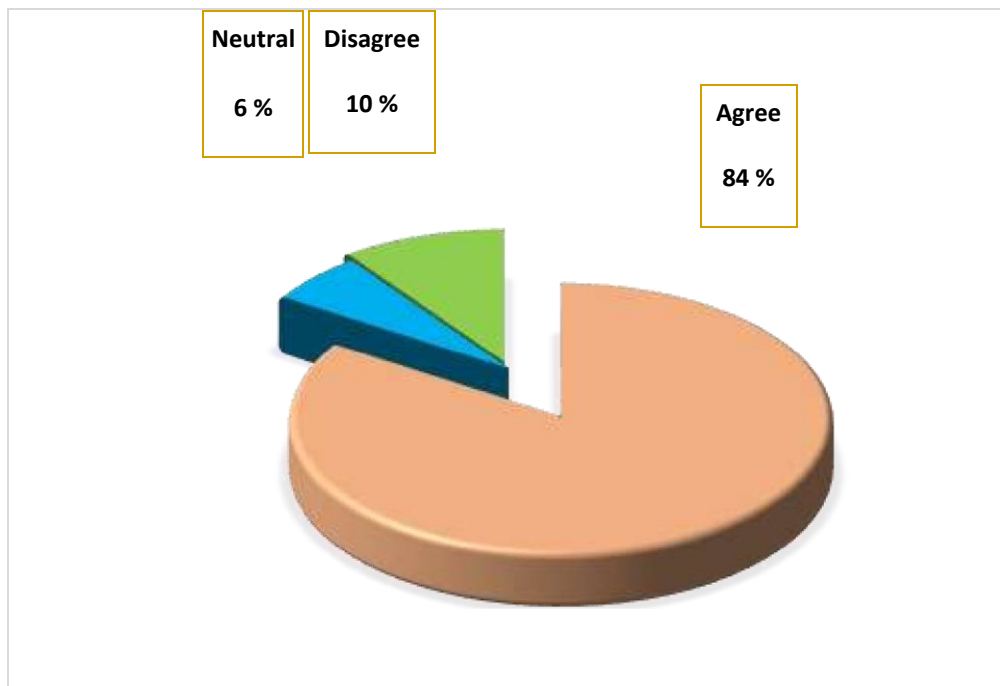


Figure 4.8 Participants opinion on link between land tenure system and insecurity in Tana River County

The results show that 84 per cent of the participants agreed that insecurity in Tana River County was linked to the land tenure system. In this regard, 97.5 per cent of the participants observed that residents of Tana River County lacked title deeds

while another 83.7 per cent of the participants observed that there was no clarity on the land tenure system. This view was supported by the key informants who observed:

Conflicts in Tana River County are partially linked to the land tenure policies...there is no demarcation of land in this region and therefore the pastoralist community feel that they have a right to graze their animals anywhere. This makes it difficult to deal with insecurity in the area [Key informant 2, Ward Commander].

The observations by the Ward Commander were in agreement with those of participants that failure to demarcate land in Tana Rive County was a major cause of insecurity in the area. The participants stated thus:

All communities around here (Tana River) claim ownership of the land because no title deeds have ever been issued. Each community claims that the land belongs to them and this leads to tribal clashes [Participant 265].

Another participant sharing the same observation noted:

Land tenure policies have not been reviewed since the colonial era. In addition, other ethnic groups have invaded the county at the expense of the indigenous community – the Pokomo. There is need to ensure land ownership through title deeds in order to avert frequent insecurity in Tana River County...contested land due to failure of

gazettement has triggered frequent conflicts and hence a security burden [Participant 103].

This observation was collaborated by the third key informant:

Land tenure policies affect security in Tana River County because the pastoralist Orma community believe that the land is communally owned and therefore they have grazing rights. On the other hand, the farmer Pokomo community believe they own the land. This leads to conflicts, especially during the dry season when the Orma community invade the farms of Pokomo farmers.

Land tenure systems have been associated with insecurity in other parts of Africa. For example,

(Ogola, 2013) observes that in Rwanda, among other factors, the land tenure system has led to conflicts, where tenure insecurity is “brought about by frequent episodes of population displacement and subsequent redistribution of land by state”. Kasimbazi (2017) observes that in overlapping customary land tenure systems are likely to generate conflicts.

The second challenge encountered in solving natural resource-based conflicts in Tana River County was infiltration of small arms. Data were collected from the key informants. All the key informants agreed that there was use of small arms by some community members during natural resource-based conflicts. This observation is congruent with the results in section 4.2. The study established that

arms were used during conflicts in Tana River County with 7.4 per cent indicating that guns were used. All the key informants, however, were in agreement that those who own arms and weapons in Tana River County acquire them illegally:

It is not true that arms and weapons are acquired openly in Tana River County. However, it is true that some community members acquire arms and weapons but secretly. They claim that they acquire them for self-defence when attacked by other communities [key informant 3; deputy county commissioner].

This observation by key informant 3 was collaborated by key informant 1, thus:

The infiltration of illegal weapons in Tana River County is as a result of the porous borders and insecurity in neighbouring countries like Ethiopia. Arms find their way into our county. Weapons and small arms are not acquired openly. However, it is true that some members of the community own arms and weapons but they are acquired secretly. They claim that since the other communities have weapons, they must have them for their own protection [key informant 1; Sub-county Police Commander].

Other studies have observed that there was infiltration of small arms and light weapons in Tana River County. For example, Wepundi, Eliud, Murray and Alvazzi del Frate (2012) observe that Tana River County was among those with

“significant pastoralist communities who have a propensity to arm themselves to protect their livestock”. The assessment by that Tana River,

Baringo, Isiolo, Laikipia, Samburu and Turkana were “pastoralist inhabited counties with a positive response on firearm presence” (Wepundi, Eliud , Murray, & Alvazzi del Frate, 2012:

43).

This section has demonstrated that dealing with natural resource-based conflicts in Tana River County is affected by the land tenure system and infiltration of arms and weapons.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The study's key objective was an investigation on the influence of natural resource-based conflicts on security in Tana River County, Kenya. In this chapter, the study findings are summarized thus drawing conclusions on natural resource-based conflicts. In addition, the chapter has recommendations based on study findings as well as suggestions for further study.

5.2 Summary of Findings

Nature of conflicts between the pastoralist and agropastoral communities in Tana River County

Natural resource-based conflicts are frequent phenomenon in Tana River County as was observed by 97.9 per cent of the study participants. The study established that conflicting communities used weapons during the conflicts; machetes, bows and arrows, spears and guns. The findings also show that the use of weapons and arms during conflicts was not a new phenomenon in Tana River County, particularly during the dry season pastoralist communities' move with their animals along the Tana delta. Another finding was that the natural resources that led to frequent conflicts were water, pasture, and land. Pasture was rated at 98.8 per cent likelihood as a cause for conflicts with water and land rated second and third at 87.9 per cent and 53 per cent respectively.

The results also show that both the Orma and Pokomo communities observed that water led to conflicts in Tana River County. A Chi square test of independence established the relationship between ethnicity and reporting on water-related conflicts was significant though the association weak. However, two other variables, ethnicity and conflicts related to land use, were independent of each other.

The overall observation from the study findings was that scarcity of natural resources, grazing land and destruction of crops by the cattle of the Orma community. The results therefore validated the use of the structural theory in Tana River County which attempts to explain conflict as a product of the tension that arises when groups compete for scarce resources.

Security threats associated with natural resource-based conflicts in Tana River County The study established that there were three types of threats that were linked to natural resource based conflicts in Tana River County: personal, community and environmental security. Physical violence was the common form of personal security experienced in Tana River County while for community security threats, inter-ethnic threats were prevalent type. There were two types of environmental security threats: natural resource depletion and environmental degradation.

Conflict management approaches used in Tana River County

The Orma and Pokomo communities have a traditional system of governance charged with security management in Tana River County which was in the form of

peace committees. There were divided opinions on whether the peace committees were effective in peace building since some of the members of the committees were subjective when settling disputes as influenced by ethnicity. The study also established that four conflict interventions were commonly employed in Tana River County: traditional dispute resolution approaches, alternative dispute resolution, litigation, and joint security meetings.

Challenges encountered in solving natural resource-based conflicts in Tana River County

The management of resource-based conflicts in Tana River County was hampered by two factors: the land tenure system and infiltration of small arms. Land in Tana River County was communally owned. Since land is not demarcated incidences of insecurity were prevalent in the region as the pastoralist Orma community grazed their animals in the farms of the Pokomo communities, particularly during the dry season. The second challenge was infiltration of small arms and weapons in the county. This was evident as both members of the Orma and Pokomo communities claimed that they needed to protect themselves from external threats. The acquisition of the weapons and arms was as a result of the porous borders and insecurity in neighbouring countries.

5.3 Conclusion

Mainly, two ethnic groups (the Pokomo and Orma) were at the centre of the natural resources based conflicts in Tana River County. The two clashes between the two communities were induced by conflicts over land and access to water. The underlying problem about the clashes is the communal ownership of land since

there are no fixed statutory and individual property rights over land in Tana River County. Much as the farmer Pokomo community claim sole rights to their farms, the pastoralist Orma community have adopted the communal use of the area land consequently leading to armed conflicts. The study concludes that unless land adjudication was undertaken in Tana River County, natural resources-based conflicts shall persist. The fact that the land rights in the Tana delta remain unclear, the Pokomo and Orma communities shall persistently claim the same land since only few people have title deeds. Such a scenario creates a different land tenure system as well as multiple ownership claims which is a likely trigger of frequent violence in Tana River County. This is despite the formation of peace committees, natural resource management committees, as well as joint security meetings and apprehension of offenders.

5.4 Recommendations

The study suggests the following recommendations as a solution to natural resources-based conflicts in Tana River County. The following solutions could be adopted.

1. The Ministry of Agriculture in collaboration with the Ministry of Water and Sanitation and Irrigation to generate natural resources policies that will create the existence of sufficient water points in the hinterland. This would keep livestock owned by the pastoralist communities outside of the delta thus mitigating the water needs of both communities. The Ministry of Water and Sanitation and Irrigation could revive the collapsed irrigation schemes in order to create livelihoods for community members thus reducing the tensions between the dominant Pokomo and Orma communities.

2. The Ministry of Lands and Physical planning should formalise the land tenure system in Tana River County. This should be done with full participatory of all stakeholders and fair representation from both sides (age, gender and religion). This would go a long way in sharing the resources between the pastoralist and agro-pastoralists.
3. As part of first line management approach to illicit arms used for self-defence, it is hereby recommended that National Government Officers in the region to advise residence of the county to surrender the illicit arms to the security apparatus. This can be done through the county commissioner Tana River.
4. The second line management to the issue of illicit arms, a forced disarmament approach to be used to recover the illegal arms and ammunitions. The perpetrators to be charged before court. Charging the perpetrators will act as a deterrent measure.

5.5 Suggestions for Further Research

Further research needs to be conducted on the sources of SALW that are commonly used during banditry attack in Tana River County. According to NGAO officers, it was established that more weapons are being seen with community members in disguise of self-defence.

Furthermore, a research on viability of ADR and TDRMs mechanisms is needed to assess their level of managing the conflicts since they are still rising.

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Appendices

Appendix I: Informed consent

My name is Chikandah Fanuel Douglas .I am a Masters student at Kenyatta University Department of Security and Correctional science. I am conducting a research on the influence of natural resources-based conflicts on security management in Tana River County. The information will be used by Policy Makers at the county level together with all security actors.

Procedures to be followed

Participation in this study will require I ask you some questions. I will record the information from you in a questionnaire.

You have the right to refuse participation in this study. Please remember that the participation in the study is voluntary. You may ask questions related to the study at any time. You may refuse to respond to any question, and you may stop an interview at any time. You may also stop being in the study at any time without any consequences.

Discomfort and risks

Some of the questions you will be asked are on intimate subject and may be embarrassing or make you uncomfortable. If this happens, you may refuse to answer these questions if you so choose. You may also stop the interview at any time.

Benefits

If you participate in this study, you will help us understand what makes informal sector workers not to enroll in health insurance schemes in large numbers. This

information will enable the researcher make recommendations to health insurance providers.

Reward

There are no monetary benefits for participating in this study but lunch will be provided and a small token to compensate you for the time we will spend on this research.

Confidentiality

Your name will not be recorded on the interview schedule which will be kept secured by the researcher and everything will be kept private.

Contact information

If you have any questions, you may contact Dr. Bernard Muiya on 0722980511 or the Kenyatta University Ethical Review Committee Secretariat on chairman.kuerc@ku.ac.ke, secretary.kuerc@ku.ac.ke, ercku2008@gmail.com.

Participants' statement

The above information regarding my participation in the study is clear to me. I have been given a chance to ask questions and my questions have been answered to my satisfaction. My participation in this study is voluntary. I understand that my records will be kept private and that I can leave the study at any time.

Name of Participant _____

Signature or Thumbprint _____

Date _____

Investigator's statement

I, the undersigned, have explained to the volunteer in a language s/he understands the procedures to be followed in the study and the risks and benefits involved.

Name of interviewer _____

Interviewer's signature _____

Date _____

Appendix II: Introductory Letter

TITLE: _____

Serial Number: _____

Start Time: _____ End Time: _____

My name is Chikandah Fanuel Douglas a Masters candidate in the department Security and Correction Science, Kenyatta University. I am researching on the influence of natural resources-based conflicts on security management.

The exercise is currently taking place in Tana River. The discussion will take approximately 15 minutes. The information you provide will help us to understand about study

The information you provide is confidential and will not be disclosed to anyone. It will be used only for research purposes. Your participation is voluntary, and you are free to refuse to answer any question in the interview schedule. If you have any questions about the survey, you may ask me (0722218100) or contact the Chairman, Department of Security and Correction Science, Kenyatta University (P. O Box 42844-00100 Nairobi; Tel: 0208710901/19 Ext: 57540. There are no monetary rewards for participating in the exercise, but you may benefit since the study shall inform you on the intervention measures on how to handle natural resources-based conflicts. You are free at any time to withdraw from participating in the exercise.

Appendix III: Questionnaire

Dear respondent, kindly participate in the data collection process on the influence of resource based struggles on security management in Tana River County. Feel free to fill in/tick where applicable. Kindly do not write your name in the questionnaire.

Kindly tick/fill where applicable.

Section A: Demographic Information

1. Sex: Male { } Female { }

2. Age: _____

3. Marital status

Single { } Married monogamous { } Married polygamous { }

Divorced { } Separated { } Widowed { }

4. Ethnic group/community: _____

5. Religion _____

6. Education: None { } Primary { } Secondary { } College { }
University { }

7. Household's main economic activities: Farming { } Livestock keeping { }

Employed { } Business { } Fishing { } Others (specify) _____

Nature of conflicts in Tana River County

8. Indicate the type of weapon, if any, that you has been used during conflicts between the Orma and the Pokomo communities.

- a) Machetes { }
- b) bows and arrows { }
- c) Spears { }
- d) Handguns { }
- e) Any other (indicate) _____

9. Indicate by ticking in the box how each of the listed items cause conflict in Tana River County

Resources	No Conflicts	Some Conflicts	Frequent Conflicts
Water			
Land (farming)			
Land (pasture)			
Cattle rustling			
Politics			
Forest (wood products)			
Fisheries			
Wildlife			
Divergent modes of livelihoods			
cultural identity			
Religious differences			

10. In your opinion, explain how natural resources in this region lead to conflicts

11. Mention any other type of conflicts that have been witnessed in Tana River County

a) _____

b) _____

c) _____

d) _____

e) _____

12. Is there a specific period when conflicts are prevalent in Tana River County?

Security threats associated with natural resource-based conflicts in Tana River County Which of the following types of human security threats are associated with natural resource use in Tana River County?

a) **Personal security:** Physical violence { } Crime { } Terrorism { }

Child labour { } Forced migration { }

b) **Community security:** Inter-ethnic { } Religious { } Loss of land{ } Cultural and natural heritage{ } disruption of cultural practices{ } Deterioration in livelihoods{ }

c) **Environmental security:** { } Environmental degradation { } Resource depletion{ } Natural disasters { } Pollution { }

d) **Political security:** Political repression { } Human rights abuses { } Displacement { }

Weakened Traditional Governance in Pastoral areas on Security Management. The study examines the influence of traditional governance on security management in Tana River County. Kindly tick on each statement based on your level of perception.

Traditional governance on security management	SA	A	DA	SDA
Traditional peace committees are effective in peace building in the region despite sporadic outbreak of conflicts.				
Traditional leaders are the major actors in peace building processes in this region despite the sporadic outbreak of conflicts.				

Traditional leaders have been mediating in violent conflicts although their role has remained null and overlooked.				
Traditional system of governance in pastoral areas has failed in ensuring security is managed well.				

In your own opinion, how has traditional governance system influenced security management in Tana River County?

i. Land Tenure Policies and their influences on Security Management

The study looks at the influence of land tenure policies on security management in Tana River

County. Kindly tick on each statement based on your level of perception.

	SA	A	DA	SDA
Land tenure policies are inadequate in ensuring communities do not fight each other over land ownership, access and control.				
There are indifferences in resource allocation between the pastoral and farming communities in Tana River County.				
Inadequate land tenure policies have led to periodic interethnic conflicts in the region.				
There are no clarities on land tenure system among the communities of Tana River County.				

In your own opinion, how have land tenure policies influenced security management in Tana River County?

ii. Conflict Interventions and their influences on Security Management

The study looks at various interventions put in place in conflict management and their influence on security management in Tana River County. Kindly tick on each statement based on your level of perception.

Conflict interventions	SA	A	DA	SDA
Traditional Dispute Resolution Mechanisms (TDRMs) have been effective in resolving conflicts in the County.				
Through Alternative Resolution (ADR) mechanisms, conflicts have been able to be resolved in the past.				
Regular security meetings with the National Police Service and the community have reduced conflict incidences in the region.				
Previous conflicts have been resolved through mediation talks and negotiations between traditional leaders, religious organizations and NGOs.				
There is need for gazettelement of contested land to be communal land in order reduces conflict incidences in the area.				
More security apparatus are needed in the region as a way of securing the citizens and disarming those with illicit arms and weapons.				

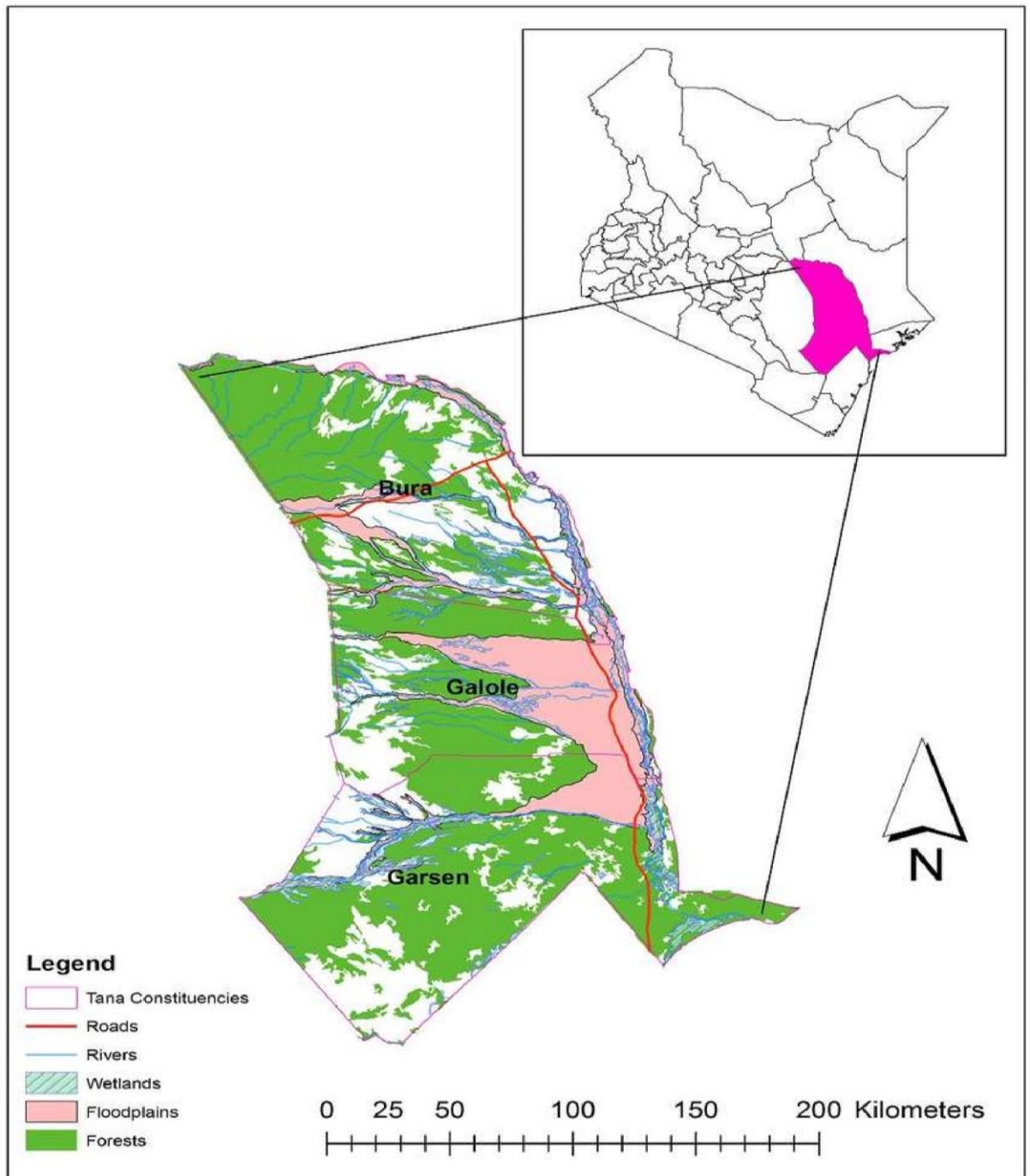
In your own opinion, which other conflict interventions have been adopted in addressing security management in Tana River County?

Thank you for participation.

Appendix IV: Interview Guide for National and County Government Representatives and Senior Police Officers

- i. In your opinion, how has the available natural resources causing inter-ethnic conflicts in Tana River County?
- ii. In your own opinion, how has traditional governance system influenced security management in Tana River County?
- iii. Are traditional peace committees are effective in peace building in the region despite sporadic outbreak of conflicts?
- iv. In your opinion, how have land tenure policies influenced security management in Tana River County?
- v. Could inadequate land tenure policies led to periodic inter-ethnic conflicts in the region?
- vi. What are some of the common conflict interventions being adopted in addressing security management in Tana River County?
- vii. Are Traditional Dispute Resolution (TDRMs) and Alternative Resolution (ADR) mechanisms effective in resolving conflicts in the County?
- viii. What is your general take on the resource-based struggles being witnessed in Tana River County?

Appendix V: Map of the Study Area



APPENDIX VI: Research Approval



KENYATTA UNIVERSITY
GRADUATE SCHOOL

E-mail: dean-graduate@ku.ac.ke

Website: www.ku.ac.ke

P.O. Box 43844, 00100
NAIROBI, KENYA
Tel. 810901 Ext. 4150

Internal Memo

FROM: Dean, Graduate School

DATE: 22nd October, 2020

TO: Douglas Faniel Chikandah
C/o Security & Correction Science Dept.

REF: S201/PT/CTY/38482/2017

SUBJECT: APPROVAL OF RESEARCH PROJECT PROPOSAL

This is to inform you that Graduate School Board at its meeting of 21st October, 2020 approved your Research Project Proposal for the MA Degree Entitled, "Influence of Natural Resource-Based Conflicts on Security in Tana River County, Kenya".

You may now proceed with your Data Collection, Subject to Clearance with Director General, National Commission for Science, Technology and Innovation.

As you embark on your data collection, please note that you will be required to submit to Graduate School completed Supervision Tracking and Progress Report Forms per semester. The forms are available at the University's Website under Graduate School webpage downloads.

Thank you.

A handwritten signature in blue ink, appearing to read 'Eljah Mutua'.

ELIJAH MUTUA
FOR: DEAN, GRADUATE SCHOOL

c.c. Chairman, Security & Correction Science Department.

Supervisors:

1. Dr. Bernard M. Munyao
C/o Department of International Relations, Conflict & Strategic Studies
Kenyatta University



**KENYATTA UNIVERSITY
GRADUATE SCHOOL**

E-mail: dean-graduate@ku.ac.ke

Website: www.ku.ac.ke

P.O. Box 43844, 00100
NAIROBI, KENYA
Tel. 8710901 Ext. 57530

Our Ref: S201/PT/CTY/38482/2017

DATE: 22nd October, 2020

Director General,
National Commission for Science, Technology
and Innovation
P.O. Box 30623-00100
NAIROBI

Dear Sir/Madam,

**RE: RESEARCH AUTHORIZATION FOR DOUGLAS FANUEL CHIKANDAH- REG. NO. S201/
PT/CTY/38482/2017**

I write to introduce Mr. Douglas F. Chikandah who is a Postgraduate Student of this University. He is registered for M.A degree programme in the Department of Security and Correction Science


Mr. Chikandah intends to conduct research for a MA Project Proposal entitled, "Influence of Natural Resource-Based Conflicts on Security in Tana River County, Kenya".

Any assistance given will be highly appreciated.

Yours faithfully,

PROF. ELISHIBA KIMANI
DEAN, GRADUATE SCHOOL


Appendix VII: Research Permit



NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION

Ref No: 306308
Date of Issue: 11/November/2020

RESEARCH LICENSE




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