THE INFLUENCE OF COMMUNITY DROUGHT RISK MANAGEMENT ON COMMUNITY DEVELOPMENT IN TIATY CONSTITUENCY BARINGO COUNTY, KENYA

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DECLARATION AND APPROVAL

Student Declaration

The Research Project is my original work and has never been presented for Degree award to another University

Sign:  Date: 13/10/2023

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MDS/2013/49144

Approval by Supervisor

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DEDICATION

The study project was dedicated to family members, relatives and course mates who offered their varied level of supports throughout the study.

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ABSTRACT

Climate change has contributed increases in disaster occurrence, particularly those with meteorological origin. The study highlighted the interlinkages between the study variables of interest. Independent variables are Participatory Disaster Risk Assessment, risk reduction programs and community governor's structure and organizations. The dependent variable on the other hand is community development program that are aimed in building resilience geared towards the attainment of vibrant and resilient communities. Under determination was the influence of community drought risk mitigation measures and community development in Tiaty constituency of Baringo County, Kenya. The variables guiding the study included determining the effects of; participatory disaster risk assessment, risk minimising programs, community governors' structures and organizations in Tiaty Constituency, Kenya. The study was underpinned in two broad theories namely; Environmental Community Development, Participatory approach amongst others. Populations of interest for the study were mainly representatives and directors from state and non state actors working in Tiaty constituency of Baringo County. NDMA, KRCS, department of devolution and special programs, WASH officers, and Health/Nutrition as well as household members in Tiaty Constituency.The study considered primary data from household responses to appropriate questions asked. Data analysis was done through descriptive statistics, which offered descriptive features of interest in variables analysis. The study utilized semi-structured questions as the primary data collection approach. A pilot group comprising 10% of the sample size was used for testing, and their data wasn't included in the final research. The questionnaire's question validity was assessed through content validity, and reliability was determined using Cronbach Alpha. Quantitative survey data was given as mean averages, and Statistical Analysis Software version 25 was employed for result analysis. Content analysis for qualitative findings was conducted using content analysis that helped in coming up with the study inferences. The presentation of the study findings was in the form of tables. The study findings highlighted that pparticipatory approaches in disaster risk reduction helped communities in Tiaty Constituency in advancing their build resilience efforts against various hazards. This resilience extends beyond disaster management and contributes to overall community development with sustainable self reliance. The study also found out that risk reduction programs related to environmental conservation and sustainable practices contribute to the long-term sustainability of communities in Tiaty Constituency. This s is an indication that unsustainable development is crucial for ensuring that future generations can thrive in a healthy environment. The study also established that community organizations in Tiaty constituency can raise awareness about drought risks, their causes, and potential impacts. They can provide education and training to community members on drought preparedness, water conservation, sustainable agriculture practices, and other relevant topics. In conclusion, the findings from the survey conducted in Tiaty Constituency, Kenya, highlight the significant positive impact of participatory disaster risk assessment, risk reduction programs and community organizations on community development. Based on the comprehensive study outcome in Tiaty Constituency, Kenya, it is strongly recommended that risk reduction programs, with a specific focus on environmental conservation and social cohesion should be prioritized and expanded. The study also recommended that, community organizations should adapt strategic partnership engagement with other stakeholders involved in disaster risk management. The biggest users of these findings will County government of Baringo, more so government officials in Tiaty constituency. The findings from the study will be informative when it comes to outlining those specific risk management strategies that can be used in the region.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

ADIS	African Drylands Institute for Sustainability
ASAL	Arid and Semi-Arid Land
CBDM	Community-Based Disaster Management
CBDRR	Community Based Disaster Risk Reduction
CBO	Community Based Organizations
CDRMS	Cardiac Design Remote Monitoring Specialists
DRR	Disaster Risk Reduction
EWS	Early Warning Signs
GoK	Government of Kenya
IIED	International Institute for Environment and Development
NDMA	National Drought Management Authority
ROK	Republic of Kenya
UNDP	United Nations Development Programmes
USD	United States Dollar

CHAPTER ONE

INTRODUCTION

1.0.Introduction

1.1 Background to the Study

For a quarter of century now, there has been an increase in losses of lives and livelihood following disaster occurrence, as pointed out by the Environment Development International Institute in 2018. Changes in climate contribute to an increase in the rate of disaster occurrence, more so in areas experiencing harsh climatic conditions (Argwins, 2018). This reflects that drought and floods are widespread compared to all other natural hazards, with their impacts being on the rise. In as much as anthropogenic disasters have been on the rise, there is limited available global data that shows the changes over a time period. In 2012 however, it was highlighted in USA following the research findings on the Epidemiology of Disaster of global technological disasters that summed up to 198. It is worth noting that Asia as a continent has recorded the highest toll of natural disaster occurrences (Daylla, 2019).

The existence of discrepancies between events numbers and the victims in the Asia Continent, considering the losses and events, justifies the need for concerted efforts on DRR that need to be directed to countries in the Asia Continent. It has been highlighted by Joshua *et al., (*2019) that however much there has been a growth in the occurrence of hazard events, indication are that catastrophic experiences are not only triggering impactful mitigations, but rather puts the population at risk as well. On the other hand, it has been agreed that preparedness at the individual, organizational, and community levels is significant in facilitating impacts on hazards.

In Malaysia, Ings *et al.*, (2019) determined that drought impacts are very multifaceted and can be grouped as social-economic and environmental. On the other hand, effects are often experienced within the economy and may end up lingering for multiple years following the termination of drought episodes (UNDP-UNSO, 2011). The frequency of drought has become so intense in that drought recovery measures faces shorter period for implementation, thus increasing the local population's vulnerability (Wiseman et al., 2016) creating a cycle of deficiencies for building back better. In essence, it is expected that a severe drought to occur in Kenya after every 3-7 years and every 25 years for long seasons.

Exposure and vulnerability assessment through participatory processes are useful in identifying existing risk together with most at risk element within the community and how those risks can be mitigated, as highlighted by Jurgen (2018). This may involve assessing hazards, vulnerability, capacity, risk analysis, and prioritization and putting into consideration individuals' perception of risks. Risk Reduction measures are those processes and programs carried out by the local authorities or development partners by involving community members, local people, and community experts in identifying the risks and how they can overcome (Argwins et al.,2019). Following the nature of the assessment findings, measures of various risks reduction will be highly useful in reducing the vulnerabilities, therefore enhancing different capacities that can be identified by the community and hence translated into the reduction plan against various disasters shocks (Wedawatta *et al*., 2016).

Additionally, community-based organizations have been formed to strengthen and ensure the sustainability of all the mechanisms within a community to assist in implementing the tasks carried out by the CBDRR. The community-based organization comprises those residents who actively participate in community development programmes alongside development agencies and local

communities, and authorities alongside other stakeholders to help track the progress (Valo, 2015). This is a clear indication of a paradigm shift as there is a movement from a reactive, top-down model that handles disasters after they occurred, to a more proactive and community-focused disaster management capitalizing locally available resources, backed by community owned risk reduction development plans (Valo, 2015). This is significant in determining and appreciates best ways possible to for reduce losses in live and livelihood of affected communities following appropriate and acceptable management approaches following apparent shortcoming in past practices that relied heavily on top-down management of disasters.

This technique lays much emphasis on the community's capacity building in the assessment of vulnerability against nature based and anthropogenic hazards, while in addition, formulating the necessary strategies as well as resources required in the prevention and mitigation of the effect of identified hazard risks in responding, reconstructing, and rehabilitating following their onset (Wedawatta *et al*., 2016). In this manner, empowering communities is achieved to make them proactive when it comes to managing disasters as well as the creation of space for the development of strategies based on their terms instead of waiting on the national government as well as non-governmental organizations (Uddin, 2018). Since communities are involved in reducing disasters, their needs are felt and hence become inherent as resources are required. In this manner, there is a high possibility that solutions to all the problems faced will be given out.

In Nigeria, Ojukie (2018) highlighted that the reduction of risks at the community level offers great strength to the capacity of individuals as well as reducing vulnerabilities, hence enabling people to cope with hazards easily. This has become one of the key approaches in reducing disaster risks that have primarily evolved from risk reduction of disasters to management of community-based disasters (Valo, 2015). This approach may involve members of the community, more so those who

are highly vulnerable in assessing risks, while identifying, appropriate risk mitigation measures, as they put genuine preparedness programs to aid in planning and inform better decision making while appreciating participatory monitoring and evaluation of ongoing activities aimed at mitigating disaster risk as it monitors implementation progress, therefore benefiting the community directly in achieving the process of development and risk reduction measures. Some of the effective approaches applied to ensure success in actualization of such programs included public participation in disaster risk assessment, building stronger community organizations together with proper participatory monitoring, evaluation and learning process.

Drought is considered to be one of the main dominant and frequent hazards that affect pastoralists within the continent of Africa. The drought affects not only pastoralism but also other production systems and livelihoods in the larger ecosystem within the continental Africa. In Bosaso, Somalia, Asmali & Ahmed (2018) determined that a huge chunk of African's land mass are not reliable to support sustainable land use, for instance, ecosystem based livelihood such as crop and livestock farming because of depressed rainfall pattern that is poorly distributed both in space and time. Accordingly, pastoralists who live in dry land areas within the African continent are highly susceptible to drought shocks and have therefore found it very difficult to live in hostile climatic conditions (Nikola, 2006).

In Zambia, it was determined by Hess *et al*., (2016) that the pastoralists' ability to respond to the current drought does not only depend on the degree or extent of drought occurrence but also the rate at which population grows together with their corresponding capacity to absorb shocks. On the other hand, factors such as changes in the rate of access to water, land, and outbreaks like floods affect the approach to the current crises (Hess, Wiseman & Robertson, 2006). Post drought evaluation carried out on the effectiveness of various response interventions by respective national

government has given an indication of the fact that crisis management approaches had resulted in wastages and duplications due to poor coordination mechanism coupled with inappropriate and untimely responses interventions. Increased risk awareness and understanding of drought episode has gained traction thereby creating an enabling environment for understanding the nature of drought occurrences; hence helping the government developing appropriate risk informed adaptation strategies and approaches to address the negative impacts of drought thereby reducing vulnerability while saving lives and livelihoods (Wilhite, 2014). In this regard, several countries in the African continent are interested in developing more vibrant strategies for countering risks.

Available evidence publish by (UNDP, 2018) , further highlighted and gave a gloomy picture on the drought catastrophe in 2011, nearly 200,000 refugees from the neighboring country of Somalia sought humanitarian assistance in Kenya, settling at the Dadaab refugee camp in Kenya. Upon evaluating the responses after the drought by the government, it was determined that poor disaster risk management coordination has contributed to the untimely response. On the other hand, it was highlighted that the rains, having failed for second consecutive season, the prolong worsening situation the further complicated household food insecurity that pushed a substantial number of household into poverty, way before, the Kenyan government declared drought as a major human crisis in 2011, June (Oxfam, 2012), depicting yet another missed opportunity to ascertain whether or not the Kenyan government lacked the requisite resources both technical and financial to implement the recommendations from the EWS report. Kenya's Flash Appeal by OCHA (2017) pointed out that in as much as the National government of Kenya had relatively good mechanisms of responding to the drought risks, the large volume of human needs overwhelmed the any available resources in the country.

In the recent past, several pandemics haven't taken place, more so in the developing countries. However, occurrence of flu, Ebola and MERS in essence has called into action the need for well informed risk mitigation measure including general preparedness, more so in public health institutions. Proper management of these pandemics including change in behavior of those concerned is a key requirement in risk reduction process. Since there is a likelihood of having few African countries overlapping responsibilities in the management of natural, technological and national hazards, it becomes easy to have a clear understanding of the behavioral utility change that contributes actress the wide range of risk management strategies.

The Kenyan Government has made convincing improvements in countering drought (GoK Report, 2018). The agency mandated to end drought emergencies in kenya was established in November, 2011, following a massive drought which had huge ramification on Kenyans overall economic growth having slowed down growth projection mainly the food security sector, by leading and coordinating drought management practices and adaptations to climatic changes. Through the same body, drought management system has been well institutionalized and put into a particular category. One of the main approaches they often adopt is the community-based risk reduction approach for droughts.

1.2. Problem Statement

Drought is the single most devastating natural disaster that undermined the developmental strategies across several communities on global perspectives, particularly in developed nations with negatively impacting critical productive sectors of Agriculture, water availability, and the other rangeland dependent micro-economies of vulnerable populations (Johnson et al., 2017). The occurrence and magnitude of droughts was projection to be worsening moving forward due to unprecedented effect of climate related shocks thereby having a monumental negative impact.

Even though droughts cannot be prevented, their impact on people's lives and livelihood can be mitigated through effective drought risk management strategies. In many cases, communities develop their own drought risk management strategies, using their own unique circumstances and cultural practices enriched with locally available resources in clear understanding of priority intervention to be pursued to mitigate drought related shocks. Tiaty constituency has been facing prolonged and live threatening droughts that negatively impacted the prosperity and well being of the Pokot community eventually resulting loss of lives and livelihoods while triggering additional secondary hazard such as resource-based conflict. Human development indicators (HDI) of Baringo county show that the area is highly underdeveloped characterized by a Human Poverty Index of 30 percent against a national figure of 29%, as well as Human Development Index of 56% against a national figure of 55% (CIDP, 2017). This therefore triggers a need to analyze the influence of CMDRR on community development in the area.

However, little was known about the influence of community drought risk management strategies in promoting community development particularly in Tiaty constituency. In this regard, there is a need to understand how these strategies contributed to and enhanced community development programs. Additionally, it is important to investigate what factors influenced the acceptance and successful uptake of community led risk informed investment strategies, and being a co-shared function that require the county government to be the fast responder should there be any drought emergencies, nonetheless, resources required for responding during drought are not equally transferred to the counties to support effective coordination of response intervention putting the county led responses into limbo.

In Kenya, limited studies have been carried out in relation to CMDRR in determining the uptake of community based risk mitigating strategies that guides ending drought emergency planning

mechanism for improved resource allocation. Crick et al. (2018) investigated how community development can be achieved through mitigation of drought risks in Kilifi County. On the other hand, Atela *et al*., (2019) conducted a survey that assessed adaptation strategies to climatic changes among the SMEs owned by women in drought prone counties of Kenya, also known as ASAL counties. Besides, Mwanzia (2018) did an assessment on the dynamics of land use changes on livelihood planning for communities in Baringo County. However, none of these studies has been carried out to review the influence of Participatory Disaster Risk Assessment, risk mitigation measures/programs, and community organizations as key study variables in drought risk management strategies in Tiaty Constituency. It's on this basis that this research was conceived by the researcher to provide the broader contribution of CMDRR in advancing local community development as it provides holistic and seamless risk mitigation measures that are aligned to the drought cycle management.

1.3. Purpose of the study

The purpose of this study was to establish and document the influence of Community Drought risk Management Strategies on Community Development in Tiaty Constituency.

1.4. Objectives of the Study

The research project sought to achieve the following milestones:

i. To ascertain the influence of participatory disaster risk assessment on community development in Tiaty Constituency, Kenya.
ii. To ascertain influence of risk reduction programs in community drought risk management on community development in Tiaty Constituency, Kenya.
iii. To ascertain the influence of community organizations in community drought risk management on community development in Tiaty Constituency.

1.5. Research Questions

The study questions are as follows;

i. What is the influence of participatory disaster risk assessment on community development in Tiaty Constituency, Kenya?
ii. What is the influence of risk reduction programs in community drought risk management on community development in Tiaty Constituency, Kenya?
iii. What is the influence of community organizations in community drought risk management on community development in Tiaty Constituency, Kenya?

1.6. Significance of the Study

The findings from the study will be of great significance to the county government of Baringo, more so government officials in Tiaty constituency. The findings from the study will be informative when it comes to outlining those specific risk management strategies that can be used in the region. The management of different departments within the county government of Baringo will be able to formulate various policies required in achieving community development through implementing risk management strategies on drought.

The findings of this investigation will help decision and policy makers working with state or non state actors implementing projects in Tiaty constituency of Baringo County, as they plan and implement appropriate drought risk management activities while improving the level of community participation to identify and prioritize appropriate interventions for implementation. The future scholars and academicians will find the study's valuable outcome as it will provide insight and useful background information on analyzing the invaluable role played and contributions made by local community on risk informed investment planning geared towards

promoting resilient livelihood cognizant of unrelenting consequences of uncontrolled threat of nature.

1.7. Scope of the Study

The study's aim was ascertain the influence of community managed drought risk reduction measures/programs in promoting community development programs as a means of drought mitigation strategy with a focus on Tiaty constituency of Baringo County. Conceptually, the study covered the core aspects of CMDRR as a disaster risk reduction strategy which are mainly the drought risk reduction programs identified through the CMDRR process, the inter-linkages between CMDRR programs and community development and the last being the community organization that oversee the implementation CMDRR programs for effective drought mitigation strategy. Geographically, the study will cover Tiaty constituency Baringo County, inhibited majorly by pastoralists and experiences extended dry seasons in most parts of the year.

The study covered pastoralists household and Key Informants (usually local administrators, DRR committee members, other stakeholders involved in drought risk management such as NDMA, County department of Agriculture, Livestock, Water, Special programs, Education, Health & Nutrition and some non-state actors such Kenya Red Cross Society, Action Aid, World Vision Kenya, Self Help Africa and Reconcile working in Tiaty constituency. The research process covered eighteen months from April 2022 to October 2023.

1.8 Study Limitations

This research was done using primary data where the research instrument was questionnaires. In such a study, the possible challenge that arises is the hostility of the area from which the study is carried out. It was a major issue to get to and reach out to all the targeted pastoralists in their areas

of residence. On the other hand, the study was affected by harsh climatic conditions, which may limit effective collection of the desired data.

To mitigate such limitation, the data collection process was conducted with the support of local administration may entail chiefs, leaders of the village communities who have proper understanding of the terrain, DRR committee members together with farmer producer groups and in addition urban, or-urban and villages household who mostly remain behind even after their animals have migrated. It's also projected that the data collection exercise is expected to coincide with the wet season (long rains season) when most of the household have returned to normal grazing areas not.

1.9. Delimitations of the Study

Delimitations are boundaries that have been sidelined by the researchers with respect to getting response that favor the study findings (Mugenda, 2013). The present survey was delimited only to Tiaty constituency in Baringo County. This study was also delimited to only local Disaster Risk Reduction (DRR) partners such as the Management Authority for Drought in Kenya (NDMA) in the constituency, CECs of the key ministries involved in disaster risk management that is Agriculture, Livestock and Fisheries; Natural, Environmental Resources and Wildlife and Tourism Management as well as Water and Irrigation ; members of the non-state actors involved in disaster reduction (NGOs, CBOs), 10 ward administrators and the households staying in Tiaty sub-county.

1.10. Assumptions of the Study

Presently, the survey was based on multiple assumptions and study carried out with an assumption that;

- The respondents would have a clear understanding about strategies of risk management for the experienced drought at community level in Tiaty constituency in Kenya.

- The researcher also thought that, all respondents will voluntarily accept and participate in the study from which data required by the study was achieved.
- The researcher also believed that peace and tranquility will prevail throughout the research period.

1.11. Operational Definition of Terms

Community Managed Drought Risk reduction strategies (CMDRRS)- The concept of community managed drought risk management is designed to strengthen community preparedness and resilience building through enhanced development programs that increases individual survivability and general community readiness to address adverse effect of drought.

Community organizations- Community-based organizations form part of the CMDRR process and are designed to lead the realization of the programs designed and developed during the CMDRR process for effective management of drought at the community level.

Drought- A prolonged period of abnormally low precipitation, often combined with abnormally high evaporation adversely affecting water availability in a given geographical location.

Mitigation Refers to risk elimination strategies that have been adopted and are channeled towards improving the living standards of the local communities.

Participatory disaster risk assessment Eentails steps that are taken to help in the identification of risks faced in the community and may also involve vulnerability, hazard and capacity assessment and analysis extent of risk impacts.

Participatory monitoring and evaluation entails determination of the measure or progress that has been made to identify actions of follow ups by various development agencies, local authorities and community members.

Preparedness are measures that have been put in place to enable proper response to possible impactful hazards that may include giving prior warning to people from which they can keep their resources safe.

Risk reduction measures- Appropriate actions that are undertaken to ensure better living standards of affected persons.

Vulnerability The susceptibility level of a system and its inability of coping with adverse climatic impacts.

CHAPTER TWO: EMPIRICAL LITERATURE REVIEW

2.1. Introduction

A brief snapshot to lay the foundation for the importance of community managed drought risk reduction literature and other publication related to the influence of community management strategies in drought risk management meant to advance locally led development programs in a varied context presented. In addition, documented lessons shared and best practices on general community engagement strategies and public consultation during planning processes by giving comparison in best approaches for effective drought risk reduction and therefore will significantly provides the requisite theoretical backing for the study

2.1.1. The influence of Participatory disaster risk assessment on Community Development

Azad *et al*., (2019) conducted a study to determine community owned disaster management together with some of its salient attributes in Bangladesh. The reviewed study had a 48.4% response rate where 242 were used. The study was considered use of different tools in data analysis with multiple regressions being the major one and the research findings reveal that risk management of disasters needs to be grounded on the majority of vulnerable persons within a community amongst them being children, women, the elderly, the disabled, and the youth more so concerning addressing stakeholders' concerns. The majority of the vulnerable groups have a chance of participating in the management of disasters even at the local level and therefore need support in activities to both minimize vulnerability as well as promoting their individual survivability and community readiness to wards disasters. Any meaningful disaster risk mitigation process must consider a gender responsive strategy and appreciate the active role women play during public participation and planning process towards disaster management. There is, however, a different perception of risk levels among members of the community, and everyone is exposed to various dangers. Hence diversity should be put into consideration in the management of disasters through the participation and intervention of community members (Birian, 2019).

In Ethiopia, Hess (2016) conducted a study on Integrated Risk Financing to safeguard locally owned productive assets and expand opportunities for economic growth and prosperity in Ethiopia. The study used a descriptive study design from which the survey selected several Agricultural firms. Data analysis was achieved with the help of a multiple regression techniques from a response rate of 79%. It was determined by the study that there are varying capacities and vulnerabilities among different groups in the community. This may tend to change concerning class, occupation, gender, age, livelihood sources, physical location, ethnicity, and religion. One successful risk management for disaster should be aimed at bringing together all the community members within a given location and should help to identify beneficiaries of the risks and strategies for reducing the risks in addressing the groups that have been prioritized (Juan *et al*., 2019).

In as much as individuals and external organizations not forming part of a community need to offer support and guidance to the local people to help manage disasters. Disasters are considered not to be manageable, more so when there are many risks involved in addressing all the problems at hand. Therefore, locally financed community action plans outlining hazard mitigation measures should aim the wellbeing of the people by bettering their lives and assets focusing on people with poor living conditions (World Bank, 2010).

Shileche (2018) carried out a study in Kenya emphasized the importance roles played by host of communities in planning and budgeting process of identifying disaster affected beneficiaries as part of community targeting for response inventions. The study found out that effective disaster risk management entails seriously coordinated public participation of the local community members to determine the interests, expectations, impacts, beneficiaries and influence on the desired execution of the management project. Execution of the risk management projects requires that specific communications be obtained from various stakeholders' registers operating in the areas as part of the wider stakeholder mapping. Often, disasters do strike communities in local set ups from which a big share is commanded based on the communities' wellbeing (World Bank, 2009).

From the reviewed literature on participatory disaster risk assessment, there exists a research gap. The study by Hess (2016) on risk informed financing to community owned productive assets in fostering monumental growth and wellbeing of citizens in Ethiopia, and this presented a contextual research gap. While the study emphasized the role of community led risk reduction mechanisms, its focus is contextually different from Tiaty's. Again, it is unclear whether or not the community's participation followed a structured methodology similar to the community-managed disaster risk reduction principles and procedures hence creating a research gap in the analysis of the gains realized by community-managed disaster risk management in promoting local development efforts as effective drought mitigation initiatives.

2.1.2. The influence of Risk Reduction Programs on Community Development

Hussein (2015) having carried an assessment on influence of indigenous strategies used during drought episodes and its impacts pastoralists' livelihoods within the sub-county of Mandera Sub-County. Households and pastoralists were the main target population for the survey study. The study targeted 168 pastoralists. The study employed stratified random sampling to select 120 respondents from the study population. Data collection was conducted using structured questionnaires and interview guides. The collected data were then analyzed using both multiple regression and correlation analysis techniques. It was determined by the study that one of the critical approaches that can be adopted in drought management is the diversification of herds, which may increase the survival rate of households of many pastoralists.

Another study was conducted by Lekapana (2019) who was keen to determine the relationship between coping strategies to drought, government interventions and socio-economic impacts in the county of Marsabit. The study incorporated both primary and secondary data sources. Primary data collection involved the utilization of structured questionnaires and interview guides. The collected data were then subjected to analysis using multiple regression and correlation analysis techniques. The findings from the survey determined that selling livestock, diversification of herds and mobility are some of the key strategies adopted in reduction of risk levels. The study further

established that programs that focus on reducing risks related to crime, substance abuse, or domestic violence contribute to a safer and more secure environment. Enhanced public safety is a fundamental prerequisite for community development, as it fosters trust and a sense of security among community members.

Similarly, Ouma, Obando and Koech (2012) sought to find out the emergency recovery techniques by livestock herders Turkana in Northern part of Kenya. The study focused on a group of 68 pastoralists. The entire study population was included in the research, as census sampling was employed. Data collection was conducted by way of face to face interviews using standard questions and interview guides. The collected data were then subjected to analysis using both multiple regression and correlation analysis methods. It was revealed from the survey that pastoralists have built traditional mechanism to cope with and recover from droughts. On the other hand, Sahal (2018) did an assessment to evaluate on how effective strategies of interventions in reduction of drought affect the livelihood of pastoralists in Kenya. It was revealed from the findings by the study that both the national government and the NGOs have interventions in place such as destocking within the area. The study further found out that direct administration and vaccination of the animals was enhanced in the community as the pastoralists also received various veterinary services to ensure the livestock survive the harsh climatic conditions.

Nyangena (2017) surveyed to assess the influence of livelihood diversification to counter the ongoing drought in Amboseli, Kajiado County, in Kenya and was keen to monitor the impact of the biophysical drought indicators on Amboseli ecosystem. The study also explicitly assessed socio-demographic drought effects on the ecosystem in Amboseli. Finally, the survey analyzed the appropriateness of various adaptation strategies on the ecosystem in Amboseli in promoting household drought resilience. The study targeted 146 individuals that where preselected stratified random sampling was used to determine the study population from which the study identified 101 respondents. However, a holistic approach involving the community had yet to be put in place to manage the disaster.

2.1.3 The influence of Community Organizations on Community Development

Drought risk reduction framework was established and founded to protect communities from any hazard, hence minimizing vulnerability to disaster risks. Community members' participation and involvement is critical among the multiple risk reduction strategies. In several instances, this approach has been considered comprehensive enough and action oriented in the event of multiple disasters. Drought cycle management is more about reducing vulnerability levels and conditions as well as the significant causes of vulnerability in the preparedness of the community readiness and improving survival capabilities among individuals. The primary strategy focused on increasing community's resilience and adaptive resources that enhances coping strategies, capacities and capabilities that will minimise future disasters.

Eriksen et al. (2019) did a survey that was directed towards establishing the sustainability of community organizations' approach in mitigation against shocks during drought occurrence in some selected hard to reach rural household in Zurich. The founding principles that guided the study included; arrangements that suit the institutional needs, sharing and discovery of community practices, capacity building and community empowerment, strengthening community resilience, and incorporating any other approach founded on equity. The study targeted 146 agents and employed random sampling to select 98 respondents from the study population. Data collection was carried out through the utilization of structured questionnaires and interview guides. The collected data were then analyzed using both multiple regression and correlation analysis techniques. It was determined by the study that those actions based on ecosystem and coordinated pave the way to achieving sustainable development, climate adaptation, DRR, and biodiversity conservation. The study further established that community organizations can promote food security by helping communities establish drought-resistant crops, implement efficient irrigation systems, and develop food storage and distribution mechanisms. Addressing food security issues not only mitigates the immediate impact of drought but also supports overall community development by ensuring access to nutritious food.

Panuwatwanich and Nguyen (2017) researched how forming community organizations is fundamental in enabling community development following droughts in Nigeria. The study employed both correlation analysis and multiple regression techniques. As per the regression methods used the research outcome indicated that the community has a clear understanding of social- economic conditions, population density, beliefs of nutrition, health status, development of infrastructure level, exposure levels, literacy, land arrangements, religious traditions, and land arrangements among other factors which favor identification that can be understood by members of the community (Powel, 2016). It was further highlighted that strategy development in one nation may be optional in another country following a vast difference in the contextual constraints, more so those programs that may need no replication from one nation to the next. It was further recommended by Barret (2018) that communities need to participate significantly during initial planning phase of programs to incorporate their interest and experience in order to enhance overall implementation modalities and improve their living standards.

From the reviewed studies there exists a research gap. In essence, Lekapana (2019) to found out that the effects on socioeconomic factors of drought on pastoralists, their means of coping up with the risks, and interventions made by the government within the county of Marsabit, Kenya; Ouma et al., (2012) to find out the drought recovery approaches used by the Turkana pastoralists in Northern Kenya and Sahal (2018) on the suitability of strategies for intervention on drought mitigation impacts on the livelihood of pastoralists in Kenya. However, the studies did not necessarily focus on community-based approach thus presenting a conceptual research gap. Other studies for instance Nyangena (2017) adopted a quantitative analysis methodology. This study will adopt a mixed methodology where both qualitative and quantitative data shall be incorporated in order to have an in-depth analysis. The study further established that stronger community organizations can facilitate the sustainable use of natural resources including water infrastructure and distribution lines. They can promote water conservation practices, implement water harvesting techniques, and advocate for responsible water use. Sustainable resource management ensures the

availability of water for both daily needs and agricultural production, which is essential for community development.

2.1.4. The influence of Participatory monitoring and evaluation on Community Development

World Bank (2019) highlights that project evaluation and monitoring play a significant role in creating the best environment that makes it easy for the stakeholders ti interact with all the resources from which risks can be eliminated. The stakeholders get to have improvement on their mandate of enhancing matters of development as well as identifying the gaps, availing all the resources, and suggesting the best way forward. In the same manner, Chitere (2014) suggests that part in development is warranted as people tend to resist development ideas imposed on them by outsiders." On the other hand, Macamo (2015) argues that the creation of individuals in the mobilization of resources enhances capacity building and appreciation of people as part of behaviors change communication strategy.

In a research conducted by Klein and colleagues in 2019, they evaluated the effectiveness of an integrated approach that combined community and ecosystem strategies to reduce disaster risks in Nepal. The study was grounded in the fundamental principles of tailoring solutions to meet the requirements of local communities. These principles encompassed creating governance and institutional structures aligned with local needs, empowering and enhancing the capacity of communities to bolster their resilience, promoting the sharing of beneficial practices that blend local and scientific knowledge, and prioritizing well-being and fairness in their approaches. The findings of the study suggested that collaborative efforts involving communities and ecosystems have the potential to be a viable approach to achieve appropriate risk reduction activities, climate adaptation, sustainable development, and biodiversity conservation, particularly the most vulnerable communities' and ecosystems in a wider spectrum. The study further determined that participatory and monitoring and evaluation often encourages communities to develop their risk reduction strategies and action plans. These community-led initiatives promote self-reliance and

self-sufficiency, key elements of community development. As communities take charge of their development, they are more likely to identify and address other developmental challenges.

A study by Jurgen et al., (2018) further established that successful PDRR initiatives can lead to policy changes and institutional improvements at the local, regional, or national levels. These policy changes may support both disaster risk reduction and broader community development objectives by creating an enabling environment for growth and safety. The study also determined that PDRR initiatives often involve the assessment of infrastructure vulnerabilities and resource allocation for risk reduction measures. These assessments can lead to improved infrastructure, such as stronger buildings, better drainage systems, and improved access to essential services. These enhancements directly benefit community development efforts by providing a safer and more conducive environment for growth.

Mulwa (2018) suggests that conventional Monitoring and Evaluation have contributed to an increase since various organizations and institutions are setting their standards and indicators on what is considered to be meeting the desired standards. It was further justified by Juan *et al*., (2019) on the significance of shifting to the Participatory Monitoring and Evaluation method from the conventional Monitoring and Evaluation method that leads to improvement in inclusivity. It was further determined that PM&E is not a strategy of soliciting information from the stakeholders but rather forms part of the entire project. In this manner, it is accessible fir sharing experiences with the stakeholders and formulating the best way forward to achieve effective project success. Mendy (2019) highlighted from his study that participatory disaster risk reduction approaches are an integral part of community development efforts. They empower communities to actively engage in their own development by building resilience, promoting community ownership, enhancing social capital, and fostering self-reliance. Ultimately, PDRR contributes to the creation of more sustainable, resilient, and thriving communities.

Chambers (2018) further argued that new ways of learning and promoting project ownership are offered by PM & E and are critical in achieving project sustainability. Naidoo (2010) highlights

that PM&E promotes project ownership, promotes project ownership, and opens wide doors for accountability and transparency. It is further highlighted by McCarthy (2004) that achieving success in participatory development, it is essential for people to be free to make autonomous choices for improved control of resources and determine their main agenda based on the decisions. This would be an ideal model for ensuring sustainable government projects that favor people. If such models are considered in all circumstances, then the question of ownership will be embraced fully.

Chambers (2018) focused on the social-economic impact of drought and how participatory in monitoring and evaluation and government led response intervention had positive impact on drought risk management, however, this too focus narrowly on one particular phase of the drought which is during emergency hence leaving out other critical phases such normal phase, recovery/reconstruction phase and also at alert stages contrary to the principle of community managed drought risk reduction approach which advocates for the holistic analysis of drought risk management from normal phase to the worst case scenario when there is emergency through to recovery and prescribes for action should take for each of this stages.

2.2. Theoretical Framework

The study was anchored on Bordieu theory, environmental sustainability theory and participatory approach which underpinned the important role played by communities to sway their future destiny. The three theories have been adopted by the study as they discuss on key constructs of the study. This section presents a discussion of the theoretical approach of the study.

2.2.1. Environmental Sustainability Theory

Environmental sustainability theory is a framework that explains how human societies can sustainably interact with the environment and was formulated and developed by Rachel Carson and Aldo Leopold (1998). It is premised on the idea that the earth's resources are finite, and that society must find ways to use these resources in a way that meets the need of current generation while cognizant of the needs by future generation therefore, applying sustainable approaches to

exploit natural resources. This theory has been studied extensively and has informed policy and practice in many areas, including environmental conservation and climate change mitigation.

A key attributes of ecosystem sustainability theory is the concept of ecological resilience which explains to the ability of an ecosystem to resist and bounce back better from any disturbances, such as natural disasters or human activities. This concept is critical to understanding how societies can interact with the environment in a sustainable way, as it highlights the importance of maintaining the integrity of natural systems.

Another integral element within the realm of environmental sustainability theory revolves around the thinking of sustainable development representing a shared prosperity on economic growth approach that aims to meet the needs of current population while equally aware of the needs of future generations to satisfy their own requirements (World Commission on Environment and Development, 1987). The approach recognizes that economic growth must be balanced with social and environmental considerations in order to be truly sustainable over the long term.

Environmental sustainability theory has informed many policy initiatives aimed at promoting sustainable development and protecting the environment. For example, the United Nations Sustainable Development Goals, which were adopted in 2015, include a set of targets aimed at promoting sustainable economic growth, reducing poverty, and protecting the environment (United Nations, 2015).

2.2.2. Theory of participatory approach

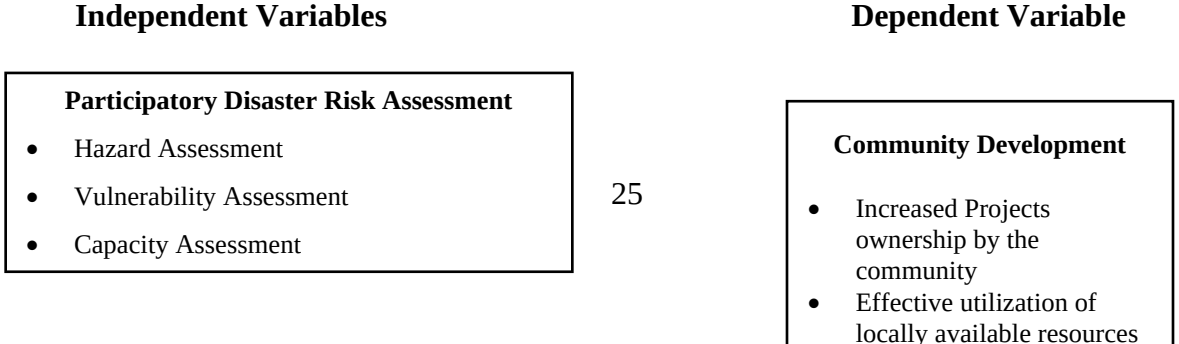
Washboard (2017) highlights that participatory theories have promoted top-down ethnocentrism as it has criticized the modernization paradigm. Further, it was justified that the strategy model for development is more concerned with achieving progress for multiple projects based on the western vision. Besides, the persuasion models' top-down approach assumes that governments' and agencies' knowledge is accurate and that indigenous populations have developed incorrect beliefs or become ignorant (Wesley, 2019). Lack of satisfaction with the highlighted traditional theories of development contributes to reviewing development purpose towards seeking the best explanation of the development of conceptual frameworks.

This theory highlights to all the stakeholders the importance of involvement in the development process (Christopher *et al*., 2018) and how the process will be of great significance in formulating development initiatives in developing nations. A sociologist and a critical thinker, Paulo formulated a model that proposes that strategy changes indicate equity between students and teachers, and there is a possibility of achieving the same only in a transformation mode (Guideti, 2018). Beyond the education context, the effects of his ideas have been intensely felt. In general, it is proposed by the model that a human-centered approach that values the justification of communications at personal levels is critical in achieving smooth decision-making processes at the community level (Siddiqui, 2019). For participatory practitioners and theorists, development required sensitivity to diversity in culture and other aspects that have been highlighted in the theories of modernization to be assumed. The absence of such sensitivities has contributed to multiple project failures (Coetzee, 2017).

Roodt and Dodds (2020) highlighted that an approach based on participatory development is majorly focused on a larger population, more so those excluded from community-based organizations in leading community development programs. The approach is beneficial and highly recommended since it focuses more on the development and participation of the community with the use of available resources. According to the participatory development theory, the solution to the problems faced in the third-world country regarding obtaining sustainable development is founded on the mandated bureaucracy for those projects that have been developed and community programs. On the other hand, the approach is built on sustainability, empowerment, capacity building, and relying on oneself.

2.3. Conceptual Framework

These parts of a study highlight the interlinkages between independent and dependent study variables illustrated diagrammatically. Participatory Disaster Risk Assessment, risk reduction programs, community organizations. The dependent variable on the other hand is community development program that contribute towards resilient communities. The indicators for the first study variable include risk hazard and vulnerability assessments. The second variable for the study is risk reduction programs and its constructs include development programs imbedded with disaster response activities also known as Contingency Plans. Besides, the study also makes a review of community organizations which is characterized by disaster risk reduction committees and community development committees as the key indicators. The dependent variable for the study is environmental community development and is measured by increased community Self-reliance, prejects ownership and sustainability as well as effective utilization of resource. The intervening or moderating variable that moderate the nexus of the community drought risk management approaches and corresponding community development considering other moderating interplays such government policies and programs



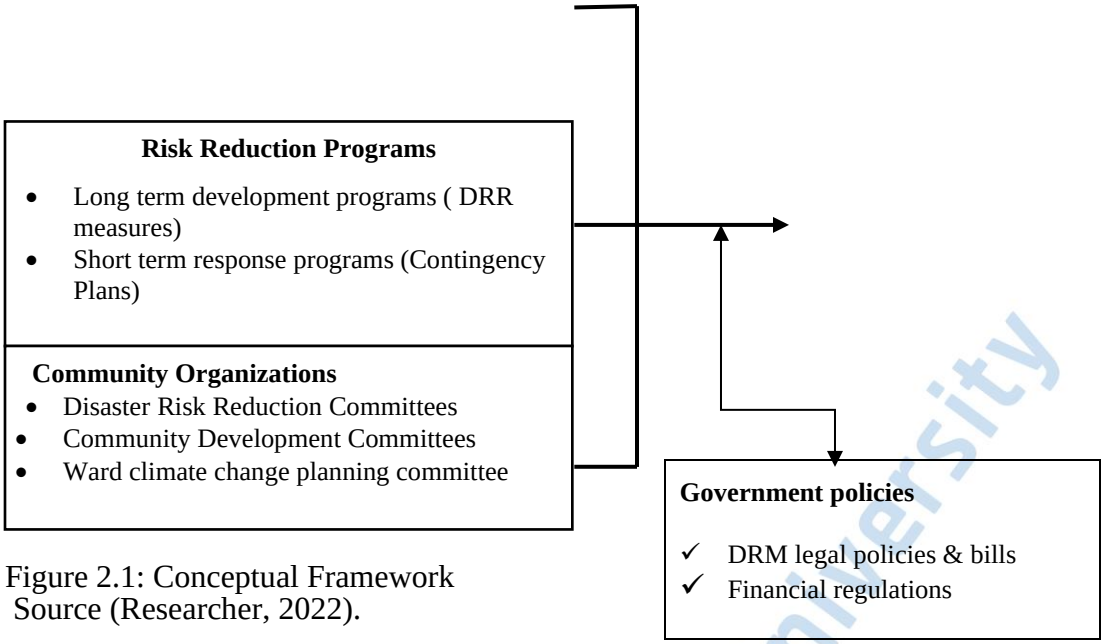


Figure 2.1: Conceptual Framework
Source (Researcher, 2022).

2.4. Recap of Review Literature

While all the past studies reviewed agreed that the community led bottom up development approach adapted by the CMDRR strategy for drought risk management as the best strategy for mitigating the negative impact of drought, there are no consensus on what constitute community led bottom up drought risk management approach as advocated for under the CMDRR principle. Similarly, the studies had focused narrowly on some specific community actions that are directed to a particular phase of the drought cycle management which works against the CMDRR principle that require and advocates for seamless and holistic approach that encompasses all the phases of drought risk management from normal phase, alert phase, alarm phase, emergency phase and finally recovery phase and this is what the current research intends to find out.

while CMDRR strategies provides a holistic approach to drought risk management that focuses on the entire drought cycle management encompassing the five critical phases of DCM (normal phase, alert, alarm phase, emergency phase and finally recovery phase) which are interconnect and when addressed together collectively and consistently will result the desired outcome of saving lives and

livelihoods during drought episode. However, the respective studies reviewed did not follow the guiding principle of CMDRR strategy thereby, creating a research gap that informed research topic that is determined to understand how these strategies contribute to towards community development, including economic, social, and environmental dimensions when holistically addressed unlike phase specific study that focused only one particular phase of the drought cycle management for example; Shileche (2018) carried out a study in the country to find out the importance of community participation during beneficiary identification during disasters that are Mother Nature related. The study found out that risk management of disaster in an effective manner need to entail proper participation of the community members by determining those interests, expectations, impacts, beneficiaries and influence on the desired execution of the management project. Execution of the risk management projects requires specific communications that can be obtained from various stakeholders' registers. Often, disasters do strike communities in local set ups from which a big share is commanded based on the communities' wellbeing (World Bank, 2009). In this case, primary beneficiaries become the community and are key actors, partners, implementers and elected or appointed leaders.

Conclusion, all studies reviewed have not complied with both the CMDRR principles and drought cycle management and therefore, create a critical research gap which informed the undertaking of this research project.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1. Introduction

The chapter gives highlight of processes, procedures and methods applied by the researcher while trying to ascertain the influence of drought risk management strategies in promoting local communities development. Some of the notable issues being discussed this section include research methodology, research design while at the same time giving emphasis study area, the population and sample size, sampling procedures, data collection instruments and procedures, ethical considerations and methods of data analysis as outlined in the subsequent subtopics.

3.2. Research Methodology

The study adopted mixed methodology and applied quantitative and qualitative methods of data gathering. Quantitative data is suitable in testing relationships between variables at the beneficiary or community while qualitative data was meant reinforce and complemented quantitative results as it tends to provide additional information by administering Key Informant Interviews (KIIs) eventually providing an in-depth analysis of the information being sort. A mixed-method approach combines the strengths of both quantitative and qualitative research approaches to present a more enhanced insight into the research problem, trustworthiness of inferences from the data acquired, providing flexibility for the researcher to highlight the similarities, differences and to ensure total representation of particular aspects of a phenomenon (Basias & Pollalis, 2018).

3.3. Research design

A mixed methodology was used in research designing design that provided a clear and elaborate analysis of the different variables that are being examined and its instruments are helpful in getting first-hand experience as well as in-depth coverage of the study (Kothari, 2004). This research design was current in nature that the researcher used to investigate the influence of community drought risk management during public participation forums geared towards advancing long term preparedness and resilience building development programs in accordance with the ending drought emergencies common framework strategy in Tiaty constituency of Baringo County by focused on a predetermined target population. The design aided the researcher's efforts of finding the favorable atmosphere that exist, practices that prevail, beliefs and attitudes that were held,

processes that were on-going and trends that were developing. The researcher collected data from the sample population and analyzed it to discover the influence of community participation in drought risk management. The research design provided numerical descriptions of the critical contribution made by communities in the management of drought shocks. Kothari further noted the ability of the method used in delivering large scale data collection with minimal time and costs.

3.4. Location of the Study

This study sought to analyze the influential nature of community drought risk management strategies in triggering community development activities for Tiaty constituency in Kenya. The Location for the study was Tiaty Constituency, of Baringo County and falls under ecological zone V&VI. Some of the region's characteristics include unreliable rainfall and low erratic and expected prolonged rainfalls between March and May. On the other hand, the region experiences short rainfalls between October and November, with high temperatures extremely high throughout the year.

3.5. Target Population

According to Mugenda (2013), population is constituted as the total elements of interest by the researcher and the study. The target population for the study was made up of representatives and directors from Ministries, Department, Agencies, special programs, water/Irrigation and Health/Nutrition and staffs working for non state actors as well as household members in Tiaty Constituency.

Table 3.1: Target Population

Category	**Population**
Representative from NDMA	14
CECs/CCO/Directors (From Agri/Livestock, Devolution/Special programs, water/Irrigation and Health/Nutrition)	20
Representatives from Non-state Actors (KRCS, Action Aid, World vision, Reconcile & SHA)	20

Ward Administrators from the seven wards in Tiaty and 2 ACC	10
Households	12,153
Total	**12,203**

Source: CIDP (2020); KNBS (2019)

3.6. Sampling Procedures and Techniques

Sampling is the careful identification of subgroup with a special interest from a larger, primary target population in a research study. Sample in research saves costs and time of the researcher. The present study incorporated the use of stratified sampling. According to Ohulo (2016), stratified sampling enables selection of a sample from a population by dividing into a small groups, or strata, having observed certain characteristics, thereby randomly selecting individuals or items from each stratum in proportion to the size of the stratum. Target audience of was divided into different strata from which each stratum was reduced, and the sample obtained was more representative of the overall population.

3.7. Sample Size

Determination of the study sample was carried out through Fischer's (1983) formula proposed by Mugenda (2009) to be suitable for a study with a population of more than 10,000, as has been presented. The 10%-point percentage for each sector:

$$n = \frac{Z^2pq}{d}$$

Where:

n = sample size desired (>10,000)

P = Target population proportion (50%)

q = Target proportion population ((1-p))

d =Error margin at 0.05

Z = Normal deviation standardized (1.96 for this study)

Replacing the values in the formula gives a sample size of 384 as shown:

$$n = \frac{1.96^2(0.5)(0.5)}{0.05^2}$$

= 384 households that was used in the representation for the ensure study.

Table 3.2: Sampled Population

Category	**Strata (*0.5)**	**Sampled Population**
Representative from NDMA	14	2
CECs/CCO/Directors (From Agri/Livestock, Devolution/Special programs, water/Irrigation and Health/Nutrition)	20	3
Representatives from Non-state Actors (KRCS, Action Aid, World vision, Reconcile & SHA)	20	3
Ward Administrators from the seven wards in Tiaty and 2 ACC	10	3
Household	12,153	384
Total	**12,203**	**395**

The total sampled population for the study was therefore made up of 395 respondents of which 384 represented households from community leaving in Tiaty constituency while the remaining

11 are the key informant drawn from local stakeholders involved in drought risk management operating within Baringo County.

3.8. Data collection Instrument

First hand data was considered by the study and obtained through the application of structured questionnaire. The research instrument for the study was questionnaire, based on closed ended questions which were administered to individual household alongside key interview guide that was used to administered interviews from key informant drawn from various state and non stat actors working within Tiaty constituency. The questionnaire was made up of two sections with the first covering the demographic factors relating to the respondents and the second section capturing variable statements in relation to study objectives that are under study. Similarly, the Key interview guide followed similar approach of separated sections each with its interest to the research

3.9. Validity and Reliability

3.9.1. Validity of Research Instruments

Validity is concerned with the accuracy of measures. It is regarded as the level by the research instruments to be used in a study is accurate in capturing the intended constructs and concepts in the study. In achieving a satisfying content validity, the expert judgemental method was useful from which presentation of the research instrument to the supervisor thereby evaluated the questionnaires critically and informed the researcher on the comments for incorporation.

3.9.2. Reliability of Research Instruments

The Reliability test measures the study variables consistently. In other words, they obtained measures need to be similar to the expected results after repeated attempts. To test the level of reliability, a pilot study will be carried in Tiaty Constituency among a few respondents to help in the determination of whether the research instrument is highly valid. In this study, the test and retests methods were used to determine the reliability of the research instrument. The technique was of benefit because it helped in ascertaining if the responses provided are ideal for the research. In the case where the instruments offer a desired reliability coefficient of more than 0.7, it would be regarded effective. In the case that the apparatus yielded less than 0.7 Cronbach alpha indexes, then the researcher would have to reserve the same.

3.10. Data collection Procedures

The researcher together with research assistant will visit the sampled household in readiness for face to face interview. The lead researcher or his research assistant will conduct due diligence introduction while giving brief background of the research and its intended purpose. There after obtained consent from the respondents having conducted the necessary introductions and briefings by explaining the purpose and intention of the research and the confidentiality of his/her responses, also providing the objectives of procedures and credibility used in the research. Occasionally, the research assistant translated some parts of the questions in local language for better understanding and provide appropriate well thought responses.

Data obtained was kept confidential and no third party was allowed to access the responses provided by the respondents based on the research instruments. No name was disclosed whatsoever, following participation in the research study. The data was only used by the researcher to help in arriving at the conclusion of the study and all participants were kept anonymous. No personal information such as name and contacts were requested by the researcher. This was supported by an assurance from the researcher to the respondents

3.11. Data analysis techniques and procedures

The study obtained both qualitative and quantitative data. Analysis of the quantitative data was done through descriptive statistics. The descriptive statistics was significant in providing a highlight of the study variables. This method of data analysis is beneficial as it is simple and offers summaries of the variables investigated by the study. The quantitative data achieved by the survey was presented in the form of mean averages, frequencies, and percentages. Besides, Statistical Packages for Social Sciences., version 25 was also incorporated into the data analysis. Analysis of the qualitative data was done through content analysis. This method was helpful in coming up with the study inferences. Study findings were also presented in the form of percentages and tables.

The study considered the use of regression model illustrated below:

$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$

Where:

PER = Community Development

X_1 = Participatory disaster risk assessment

X_2 = Risk Reduction Programs

X_3 = Community Organization

X_4 = Participatory Monitoring and Evaluation

β_1- β_4= Coefficient of Regression

ε = the error term

3.12. Ethical Considerations

Lead researcher obtained permit from NACOSTI, before undertaking investigations from the respondents in Tiaty Constituency after he was cleared by the Ethics and standards committee of the institution. In actual field visits, the researcher obtained consent from the respondents having conducted the necessary introductions and briefings by explaining the purpose and intention of the research and the confidentiality of his/her responses. It was also important for the researcher to use language that is respectable for all. Data obtained was kept confidential and no third party was allowed to access the responses highlighted by the respondents on the research instruments. No name was disclosed whatsoever, following participation in the research study. The obtained data was securely kept. The data was only used by the researcher to help in arriving at the conclusion of the study. The study kept all the participants anonymous. No personal information such as name and contacts were requested by the researcher. This was supported by an assurance from the researcher to the respondents.

CHAPTER FOUR

RESEARCH FINDINGS AND DISCUSSION

4.1. Introduction

In this part of the research, the researcher presents information on the research findings, discussions and interpretation data achieved by the researcher. The study was keen to establish the influence of Community managed Drought risk Management Strategies on Community Development in Tiaty Constituency of Baringo County, Kenya. Data analysis was conducted based on specific objectives the study sought to achieve as indicated here below;

i. To ascertain the influence of participatory disaster risk assessment on community development in Tiaty Constituency, Kenya.
ii. To ascertain the influence of risk reduction programs in community drought risk management on community development in Tiaty Constituency, Kenya.
iii. To ascertain the influence of community organizations in community drought risk management on community development in Tiaty Constituency, Kenya

4.2. Response Rate

In total 384 questionnaires and 11 key interview guides were distributed (395) to different sampled respondent both household members and key informants in Tiaty constituency out of which 363 were returned when filled correctly, of these 352 were questionnaires filled by household respondent and 11 key interview guide. This showed a combined total of 92% response rate and according to Orodho (2012), response rate of 70% or more is perfect for arriving at a research conclusion.

In this regard, the maximum response rate of 92 percentages was sufficient to support analysis of the research findings thereby providing adequate conclusions of the study.

Table4.1. Response Rate

PARAMETERS	FREQUENCY LEVELS (HHs)	FREQUENCY LEVELS (KIIS)	% LEVELS
Respondents	352	11	92
Non-Respondents	32	0	8
TOTAL	384	11	100

Source: Research Data (2023)

4.3. Demographic characteristics of respondents

This part provides key parameters used by the researcher in moderating questions as prescribed in the respective research tools administered to various respondents both households and key informant. Such parameters included the age of the respondents, duration of stay in that locality and level of education. Each of this parameter had a critical value to add onto the research findings as their inclusion into the CDMRR processes will aid in determining gender and age responsive community action plans. Some demographic characteristic play a key role in overall understanding of drought risk management as the elderly (50 above) provided historical trend and timelines of disaster and their corresponding mitigation strategies adapted by the local communities, while the younger age gained from such past experience hence knowledge transfer and retention amongst the community members was granteed as part of capacity building and knowledge management.

The contributions and values added obtained by researcher through demographic analysis to the study as quite immense as indicated by HelpAge International report (2007) building community capacity through the involvements of older person associations (OPAs) and youth groups enhances the preparedness and response interventions that promote individual survivability and community readiness during drought episodes, as indicated by some of the documented best practices and experience sharing forums where old age people contributed in planning and coordinating community based response activities. The older people are experienced and have accumulated a wealth of knowledge under diverse situations and confronted by natural and anthropogenic disasters in equal measure. Associations of Older Persons are effective mechanisms through which

older people can prepare for and respond to disasters within their communities by assuming leadership roles while providing training and other mentorship to the upcoming younger population in readiness for takeover the leadership mantle. The older people, the youth and women groups involved in emergency response and long-term development programmes improves their ability to provide better care and gives them a sense of security and belonging. The power of participation and inclusivity is something tested and trusted overtime by both state and non state actors as this emboldens peace and cohesion which are the foundations for sustainable development.

4.3.1. Age of the Respondents

The study sort to determine age bracket for each interviewee as shown in table 4.2

Table 4.2: Age of Respondents

Age group	**Frequency Levels**	**Percentage Levels (%)**
Less than 30 years	65	18%
Between 31-40 years	109	30%
Between 41-50 years	153	42%
50 years and above	36	10%
Total	**363**	**100%**

Source: Research Data (2023)

Age factor played a key role in drought risk management as the elderly (50 above) provided historical trend and timelines of disaster and their corresponding mitigation strategies adapted by the local communities, while the younger age gained from such past experience hence knowledge transfer and retention amongst the community members was granteed as part of capacity building and knowledge management. In this regard, the researcher determined found out that respondents aged 20 garnered 18% in comparison with other age distribution analyzed. Those respondents' aged 41-50 was the highest having garnered 42% of the overall score, followed by those aged

between 31-40 years having garnered 30% while those aged 51 and above scored 10% of the sampled size as presented in table 4.2 above.

According to HelpAge International report (2007) building community capacity through the involvements of older person associations (OPAs) and youth groups enhances the preparedness and response interventions that promote individual survivability and community readiness during drought episodes, as indicated by some of the documented best practices and experience sharing forums where old age people contributed in planning and coordinating community based response activities. The older people are experienced and have accumulated a wealth of knowledge under diverse situations and confronted by natural and anthropogenic disasters in equal measure. Associations of Older Persons are effective ready to use mobilization tool to reach out and quickly gather affected household in preparation for and respond to disasters within their communities by assuming leadership roles while providing training and other mentorship to the upcoming younger population in readiness for takeover the leadership mantle. The older people, the youth and women groups' involvement during preparatory stage of emergency ensures that proper targeting of hard to reach vulnerable households are easily identified for program targeting and such inclusivity broadens collaboration and partnership thereby granting sustainability and ownership. The power of participation and inclusivity is something tested and trusted overtime by both state and non state actors as this emboldens peace and cohesion which are the foundations for sustainable development.

4.3.2. Duration of Stay within Tiaty Constituency

The researcher made a request to the key informants to indicate their period of stay in Tiaty Constituency as presented in Table 4.3 below.

Table 4.3: Duration of Stay within Tiaty Constituency

Duration of Stay	**Frequency Levels**	**Percentage Levels (%)**
Below one year	10	2.7%
2-4 years	58	16%
4-6 years	131	36%

More than 6 years	164	45.3%
Total	**363**	**100%**

Source: Research Data (2023)

The research findings from the study determined that only 3.4% of the respondents have been part of the constituency for less than one year. Those household members who have stayed within the constituency for the period between one and three years were determined to be 16.1% of the total respondents. The household members who have stayed in Tiaty Constituency for the period between four and six years were represented by 38% of the total respondents whereas majority of respondent indicated that they have stayed for a period of more than six years at 46% of the total respondents. Based on the findings as shown above, it is clear that most of the household have been residing in the Constituency for a period of more than one year, hence are aware and well informed about Community Drought risk Management Strategies and Environmental Community Development programs in Tiaty Constituency of Kenya and therefore were able to provide accurate information on the concept and content of the CMDRR strategies together with their corresponding local community development programs

4.3.3. Education Level of Respondents

The researcher made a request for the respondents to indicate their highest level of education as shown in table 4.4 below.

Table 4.4: Education Level of the Respondents.

Education Level	**Frequency Levels**	**Percentage Levels (%)**

Primary Education	123	34%
Secondary Education	157	43.3%
Certificate/Diploma	62	17%
Bachelor's Degree	12	3.4%
Master's Degree	9	2.3%
Total	**363**	**100%**

Source: Research Data (2023).

Based on the above analysis of the study, majority of the respondents had attained secondary education as their highest education level at 43.3%. The household members who attained basic primary school as their highest level of education were indicated at 34% of the total respondents. Household members who have acquired Certificate and Diploma as their highest education level was indicated at 17% of the total respondents. Besides, the study determined that 3.4% of the total respondents obtained Bachelor's Degree as their highest level of education whereas only 2.3% achieved Masters Degree as their highest level of education. According to (Shaw et al 2012) Education is essential for CBDRM to succeed and make impactful contribution to people's lives and livelihoods. As part of skills transfer in knowledge management, enhancing planning and management capacities of the local community and stakeholders in addressing vulnerability and community readiness in accordance with the strategy on ending drought guided by local context while establishing a well-functioning disaster management committee at the heart of the community. The findings had been presented in table 4.4 above.

4.4. Influence of Community Drought risk Management Strategies on Community Development

The descriptive analysis for the study findings was done in accordance with the nature of responses indicated by respondents for each objective as discussed below.

4.4.1. Role of Participatory Disaster Risk Reduction Approach

This part gives highlights of key parameters used while administering the questionnaires and KIIs together with the researcher's findings and descriptive analysis for each parameter used. Some of which included the membership composition, current membership status of CDRMC and followed by detailed descriptive analysis of the Role of Participatory Disaster Risk Approaches

4.4.1.1. Membership status of the Community Drought Risk Management Committee of Tiaty Constituency

The researcher sort to understand the membership status of the respondents in relation to the community drought risk management committee (CDRMC) and based on the findings, it was established that 76% of the feedback indicated they enjoyed active membership whereas 24% of persons interviewed indicated as non members of the committee as presented in table 4.5 below. The members was sort after to clearly demonstrate the critical role played by CMDRR strategy in advancing community development and those members involved provided better understanding with precision elaborating the practices, processes and procedures followed

Table 4.5: Membership status of the CDRMC

Membership status	Percent
Yes	76.0
No	24.0

Total	100

Source: Research Data (2023).

4.4.1.2. Community Drought Risk Management Committee's (CDRMC) Participation status on participatory risk assessment

The researcher sort to investigate the involvement status of CDRMC in participatory community risk assessment in Tiaty Constituency, and it emerged that 65% of the people interviewed have been actively participating in community risk assessment processes whereas 35% haven't participated in the risk assessment within the community before. The findings were presented as shown in table 4.6 below. This means that a large proportion of the resident in Tiaty constituency had a prior knowledge of community management drought risk reduction strategies and their contribution towards local community development.

Table 4.6: Participatory status in community risk assessment

Participatory status in community risk assessment	Percent
Yes	65.0
No	35.0
Total	100

Source: Research Data (2023).

4.4.1.3. The Role of Participatory Disaster Risk Approach

Those people interviewed are requested to provide rating level of concurrency with the following statements which sort to know the influence of participatory disaster risk assessment in community development in Tiaty Constituency, Kenya. Respondents agreed that their participation in hazard assessment enhances their self-reliance in the event of drought (mean=1.73 std dev=0.31). Respondents agreed to the statement that their participation in hazard assessments enhances ownership in drought mitigation to a greater extent (mean=1.42 std dev=0.16). Further to this, the study respondents also agreed to the statement that hazard assessment among the members of Tiaty constituency entails public participation of the residents to identify risk and opportunities that informed development programs in the area (mean=1.79 std dev=0.19).

Respondents also agreed to the statement that resident's participation in vulnerability assessment is useful in achieving more self-reliance amongst the community members in Tiaty (mean=2.35 std dev=0.26). in addition, the people interviewed agreed the resident's participation in vulnerability assessments increases ownership of projects in Tiaty constituency (mean=2.35 std dev=0.26).

The respondents highly agreed with the statement that participatory risk assessment during planning phase results in better utilization of limited resources in eradicating drought emergencies (mean=2.65 std dev=1.09). The study determined that drought risk assessment does not contribute to community development in Tiaty constituency (mean=3.21 std dev=1.37) as presented here below.

Table 4. 7: Influence of Participatory Disaster Risk Approach

Aspects of Measurement	**Mean**	**Std. Dev**
The participation of Tiaty resident in hazard assessment enhances their self-reliance in the event of drought.	1.73	0.31
Participation by Tiaty resident in hazard assessments enhances ownership in drought mitigation.	1.42	0.16
Hazard assessment among the members of Tiaty constituency entails public participation of the residents to identify risk and opportunities that informed development programs.	1.79	0.19

Resident's participation in vulnerability assessment is useful in achieving more self-reliance amongst the community members in Tiaty	2.35	0.26
Residents participation in vulnerability assessments increases ownership of projects in Tiaty constituency.	1.67	0.12
Participatory risk assessment and planning results in better utilization of limited resources in eradicating drought emergencies.	2.16	1.13
Drought risk assessment does not contribute to community development in Tiaty constituency.	1.79	0.61

Source: Research Data (2023).

4.4.1.4. Regression Analysis for Role of Participatory Disaster Risk Approach

The study sought to statistically test whether the role of participatory disaster risk approach influences community development in Tiaty Constituency as a predictor variable. The analyses are as shown in Table 4.8.

Table 4.8: Regression Model Summary Participatory Disaster Risk Approach

Model Summary				
Model	R Value	R Square	R Square Adjusted	Estimate Error
1	0.516[a]	0 .655	0.329	0.49517
Note: a. Predictors: (Constant), Participatory Disaster Risk Approach				

From the model analysis, the R square value was determined to be 0.655 meaning that 65% of the variation in Participatory Disaster Risk Approach on the results from community development while 35% is due to other external assumption or influence which did not form part of this analysis model. On the other hand, the correlation was determined by an overall coefficient of correlation

of (R) to be 0.516 as presented in the above table 4.8. R Square (0.655 in this case) represents the proportion of variance in the community development that can be explained by the predictor(s). In other words, about 65.5% of the variability in the dependent variable can be explained by the Participatory Disaster Risk Approach in this model. This is a measure of how well the model fits the data. A higher R Square indicates a better fit. The results suggest that the Participatory Disaster Risk Approach has a moderate positive relationship with the community development, and this relationship explains a significant portion of the variability in the community development in Tiaty Constituency, as indicated by the R Square value of 0.655.

Table 4.9: ANOVA for Participatory Disaster Risk Approach

ANALYSIS OF VARIANCE

Model 1	Sum of squares	Df Value	Average Square	F	Sig.
Regression	14.50	8	5.26	114.11	0 .000[b]
Residual	36.12	60	.05		
Total	50.29	68			

a. Dependent Variable: Community Development

b. Predictor: (constant) Participatory Disaster Risk Approach

As shown in table 4.9, there was a high significance level which was justified by a p value of 0.000, which is less than 0.05 which is useful in measuring significance level, indicating a high level of statistical significance between Participatory Disaster Risk Approach and Community Development in Tiaty Constituency.

Table 4.10: Coefficients for Participatory Disaster Risk Approach on Community Development

Coefficients

	Un-standardized coefficients		Standardized Coefficients		
Model: Constant	**B Value**	**Error Std.**	**β**	**T**	**Sig.**
Constant	1.31	0. 445		2.947	0 .004
Participatory risk approach	.512	.121	.655	1.313	0.190

a. Dependent Variable: Community Development
b. Independent variable: Participatory Disaster Risk Approach

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c. Community Development = 0.512 + 0.655 Participatory Disaster Risk Approach + e

This is an indication that a unit change in Participatory Disaster Risk Approach affects Community Development in Tiaty Constituency by 65.6%

From the findings as shown in table 4.10 on correlation determination, it is clear that Participatory Disaster Risk Approaches emphasizes the active participation of community members in identifying and mitigating disaster risks. This engagement empowers residents by involving them in decision-making processes and problem-solving, which is a fundamental aspect of community development. As community members gain skills, knowledge, and confidence through participatory disaster risk initiatives, residents in Tiaty Constituency are better equipped to participate in broader community development activities.

Based on the statistical significance levels, it is clear from the findings in Table 4.10 that participatory approaches in disaster risk reduction involve knowledge sharing and capacity-building activities in Tiaty Constituency. Community members learn about risks, early warning systems, and response plans. This knowledge can be applied not only to disaster situations but also to other aspects of community development, such as education, healthcare, and sustainable agriculture. PDRR often encourages communities to develop their risk reduction strategies and action plans. These community-led initiatives promote self-reliance and self-sufficiency, key elements of community development. As communities take charge of their development, they are more likely to identify and address other developmental challenges.

The findings from the study matched that of Azad *et al*., (2019) who determined that implementing various approaches in disaster risk influences community development to a greater extent. The study further established that there are varying capacities and vulnerabilities among different groups in the community. This may tend to change concerning class, occupation, gender, age, livelihood sources, physical location, ethnicity, and religion. One successful risk management for disaster should be aimed at bringing together all the community members within a given location

and should help to identify beneficiaries of the risks and strategies for reducing the risks in addressing the groups that have been prioritized. Limbe (2018) further established that PDRR encourages communities to take ownership of their disaster risk reduction efforts. When communities feel a sense of responsibility for their safety and well-being, they are more likely to engage in activities that promote development, such as infrastructure improvement, resource management, and social cohesion.

The findings from the present study also matched with that of Shileche (2018) who determined that participatory disaster risk approach influenced community development as indicated by R=0.675 and a P value 0.05. The study further found out that risk management of disaster in an effective manner need to be inclusive through proper participation of the community members by determining various interests groups, expectations, impacts, beneficiaries and the level of influence on the desired execution of the management project. Implementation of risk reduction projects and programs required specific communications that can be obtained from various stakeholders present. When disasters strikes communities in local set ups from which a big share is commanded based on the communities' wellbeing (World Bank, 2009). In this case, primary beneficiaries become the community and while supporting external partners, implementing agencies and elected peoples representatives are co-opted on matters resilience building.

4.4.2. The Influence of Risk Reduction Programs in Drought Risk Management

The people interviewed was requested to ascertain the rate at which they agreed with the subsequent statements seeking to ascertain the influence of risk reduction programs in community drought risk management on community development in Tiaty Constituency, Kenya. Respondents agreed that risk reduction plans during disaster have contributed towards saving lives and livelihoods (mean=2.73 std dev=1.52). The study determined that community led participatory risk assessment enhances sustainability in Tiaty Constituency (mean=2.42 std dev=1.41). Besides, the respondents agreed that disaster risk reduction planning contributes towards appropriate resource allocation and utilization in Tiaty constituency (mean=1.97 std dev=0.78). Respondents agreed that successful implementation of drought risk reduction programs results to increased community self-reliance (mean=2.46 std dev=1.39) as indicated in the following Table 4.11.

Respondents agreed that ownership of project is enhanced by the contingency planning in Tiaty during drought (mean=1.98 std dev=0.81). Besides, the respondents agreed with the statement that there is no significant effect on community development with respect to risk reduction planning in Tiaty during drought (mean=2.15 std dev=1.19). The findings were presented as shown in table 4.11

Table 4.11: Influence of Risk Reduction Programs in Drought Risk Management

	Mean	**Std. Dev**
Risk reduction plans during disaster contributed towards saving lives and livelihoods.	2.73	1.52
Community led participatory risk assessment enhances sustainability.	2.42	1.41
Disaster risk reduction planning contributes towards appropriate resource allocation and utilization in Tiaty constituency.	1.97	0.78
Successful implementation of drought risk reduction programs results to increased community self-reliance	2.46	1.39
Ownership of project is enhanced by the contingency planning in Tiaty during drought.	1.98	0.81
There is no significant effect of community reduction programs on community development with respect to risk reduction planning in Tiaty during drought.	2.15	1.19

4.4.2.1. Regression Analysis for Risk Reduction Programs

The study sought to statistically test whether risk reduction programs influence Tiaty Constituency as a predictor variable.

Table 4.12: Regression Model Summary for Risk Reduction Programs

Model Summary				
Model	R Value	R Square	R Square Adjusted	Estimate Error
1	0.672[a]	0.816	0.581	.15443
Note: a. Predictors: (Constant), Risk Reduction Programs				

From the above model analysis, the R square value has been ascertained to be 0.816 implying that 81.6% in variation of risk reduction programs results from community development agree with statement. The remaining 18.4 percent is due to other factors not tested in this model. On the other hand, the correlation was determined by an overall coefficient of correlation of (R) to be 0.672 as presented in the above table 4.12. R Square (0.816 in this case) represents the proportion of variance in the community development that can be explained by the predictor(s). In other words, about 81.6% of the variability in the dependent variable can be explained by the risk reduction programs in this model. This is a measure on how well the model fits the data. A higher R Square indicates a better fit. The results suggest that the risk reduction programs has a moderate positive relationship with the community development, and this relationship explains a significant portion of the variability in the community development in Tiaty Constituency, as indicated by the R Square value of 0.816.

Table 4.13: ANOVA for Risk Reduction Programs and Community Development

ANALYSIS OF VARIANCE					
Model 1	Sum of squares	Df Value	Average Square	F	Sig.
Regression	11.25	1	11.25	360.78	0 .000[b]
Residual	1.82	146	.42		
Total	17.52	174			

a. Dependent Variable: Community Development

b. Predictor: (constant) Risk Reduction Programs

There was a high significance level which was justified by a P-value of 0.000, which is less than 0.05 which is useful in measuring significance level. From the presented findings in the above ANOVA table 4.13, the overall significance of the model was determined to be 0.000. This was highly significance as it was determined to be 0.42. The study therefore concludes that there is a high level of statistical significance between risk reduction programs and community development in Tiaty Constituency.

Table 4.14: Coefficients for Risk Reduction Programs and Community Development

Coefficients

	Un-standardized coefficients		Standardized Coefficients		
Model: Constant	**B Value**	**Error Std.**	**β**	**T**	**Sig.**
Constant	1.47	0. 381		7.128	0 .000
Risk reduction programs	.702	.121	.816	1.629	0.000

c. Dependent Variable: Community Development
d. Independent variable: Risk Reduction Programs

Community Development= 0.702 + 0.816 Risk Reduction Programs + *e*

The study showed a stronger acceptance and direct relationship between risk reduction programs versus community development in Tiaty as indicated by the correlation of 0.816 and a significance value 0.001. This finding shows that adoption of risk reduction programs can improve the level of Community development in Tiaty Constituency. This is an indication that a unit change in risk reduction programs causes a change of 0.816 in community development in Tiaty Constituency.

The findings matched that of Hussein (2017) who established that risk reduction programs are fundamental in ensuring community development through diversification of herds, which may increase the survival rate of households of many pastoralists. This may reduce livestock loss and increase resilience among pastoralists. The study findings can also be compared to that of Nyangena (2017) who established that drought and pasture availability affect local livelihoods.

However, a holistic approach involving the community had yet to be put in place to manage the disaster.

The study findings can also be compared to that of Sahal (2018) who determined that risk reduction programs adopted by pastoralists have built traditional mechanism to cope with and recover from droughts. The study further revealed from the findings by the study that both the national government and the NGOs have interventions in place such as destocking within the area. The study further found out that direct administration and vaccination of the animals was enhanced in the community as the pastoralists also received various veterinary services to ensure the livestock survive the harsh climatic conditions.

Based on this, it's true to say that risk reduction programs, such as disaster preparedness and response initiatives, help communities build resilience to various hazards, including natural disasters and public health crises. This resilience is a fundamental aspect of community development, as it ensures that communities can withstand and recover from adverse events. The findings are in line with those established by Basie et al., (2019) who identified that programs that focus on reducing risks related to crime, substance abuse, or domestic violence contribute to a safer and more secure environment. Enhanced public safety is a fundamental prerequisite for community development, as it fosters trust and a sense of security among community members.

Argwins & Mendy (2018) further established that some risk reduction programs involve investments in infrastructure improvements, such as flood control measures, fire prevention systems, or the development of resilient housing. These investments not only reduce risks but also enhance the overall quality of life in the community, promoting development. Many risk reduction programs engage community members in planning and implementing strategies to mitigate risks. This participatory approach empowers residents by involving them in decision-making processes and encourages active community involvement, which can be a catalyst for broader community development efforts.

4.4.3. Role of Community in Drought Risk Management

Those people interviewed were requested to rank the extent in which they agree with the following statements that seek to establish the role of community organizations in community drought risk management on community development in Tiaty Constituency, Kenya. Respondents agreed that Community organization such CMDRRC helps in timely implementation of drought risk reduction programs in Tiaty Constituency (mean=1.69, std dev=0.43). The respondents also agreed that the commitment and participation in the reduction of disaster enhances sustainability in drought risks management leading to longer term self-reliance (mean=2.05, std dev=1.65). The respondents also agreed that having active community organizations such as CMDRRC helps in timely resource mobilization and utilization for better resilience and community readiness (mean=1.97, std dev=0.82) as shown in table 4.15.

Respondents also concurred with the statement that Tiaty Community's self-reliance is increased by the level of commitment in peace and conflict management (mean=2.16, std dev=1.86). in addition, respondents had highlighted that the Committee enhances effective resource utilization during drought in Tiaty Constituency (mean=1.88, std dev=0.54). The respondents also highly agreed with the statement that CMDRRC has no effect on community development in the constituency during droughts (mean=2.46, std dev=1.79) as presented in the table 4.15 below.

Table 4.15: Role of Community in Drought Risk Management

	Mean	Std. Dev
Community organization such CMDRRC helps in timely implementation of drought risk reduction programs in Tiaty Constituency.	1.69	0.43
Commitment and participation in the reduction of disaster enhances sustainability in drought risks management leading to longer term self-reliance	2.05	1.65

Having active community organizations such as CMDRRC helps in timely resource mobilization and utilization for better resilience and community readiness.	1.97	0.82
Tiaty Community's self-reliance is increased by the level of commitment in peace and conflict management.	2.16	1.86
The Committee enhances effective resource utilization during drought in Tiaty Constituency.	1.88	0.54
CMDRRC has no effect on community development in the constituency during droughts	2.46	1.79

The findings from the study matched that of Hussein (2015) who established that one of the critical approaches that can be adopted in drought management is the diversification of herds, which may increase the survival rate of households of many pastoralists. This may reduce livestock loss and increase resilience among pastoralists. The findings from the study also matched that of Lekapana (2019) who established that programs that focus on reducing risks related to crime, substance abuse, or domestic violence contribute to a safer and more secure environment. Enhanced public safety is a fundamental prerequisite for community development, as it fosters trust and a sense of security among community members.

4.4.3.1. Regression Analysis for Community Organization

The study sought to statistically test whether community organization influences community development in Tiaty Constituency as a predictor variable.

Table 4.16: Regression Model Summary Community Organization

Model Summary				
Model	R Value	R Square	R Square Adjusted	Estimate Error
1	0.751[a]	0 .674	0.594	.68351
Note: a. Predictors: (Constant), Community Organization				

From the regression model, the R square value was determined to be 0. 674 meaning that 67% variation in community organization on the results from community development signifies strong relationship. The remaining 33% is due to other factors not tested in this model. On the other hand, the correlation was determined by an overall coefficient of correlation of (R) to be 0. 751 as presented in the above table 4.16.

Table 4.16: ANOVA for community organization and community development

ANALYSIS OF VARIANCE

Model 1	Sum of squares	Df Value	Average Square	F	Sig.
Regression	10.34	1	11.25	360.78	0 .000[b]
Residual	1.91	146	.48		
Total	20.76	174			

a. Dependent Variable: Community Development

b. Predictor: (constant) Community Organization

There was a high significance level which was justified by a P-value of 0.000, which is less than 0.05 which is useful in measuring significance level. From the presented findings in the above ANOVA table, the overall significance of the model was determined to be 0.000. This was highly significance as it was determined to be 0.49. The findings therefore concluded that there is a high level of statistical significance between community organization and community development in Tiaty Constituency.

Table 4.17: Coefficients of community organization and community development

Coefficients

	Un-standardized coefficients		Standardized Coefficients		
Model: Constant	**B Value**	**Error Std.**	**β**	**T**	**Sig.**
Constant	1.29	0.286		7.128	0 .002
Community organization	.611	.582	.674	1.629	0.000

c. Dependent Variable: Community Development
d. Independent variable: Community Organization

Financial Performance = 0.611 + 0.674 Community Organization + *e*

This is an indication that a unit change in community organization activities causes a change of 0.674 in community development in Tiaty Constituency. The analysis showed a positive significant relationship between community organization in community drought risk management on community development in Tiaty Constituency by 67%.

The findings from the study were found to be similar to that of Eriksen et al., (2019) who determined that there is a significant relationship between community organization practices in enhancing community development practices in Bahamas. The study further established that that those community organization actions based on ecosystem and coordinated pave the way to achieving sustainable development, climate adaptation, DRR, and biodiversity conservation. Powel (2016) also established that strategy development in one country may be optional in another country following a vast difference in the contextual constraints, more so those programs that may need no replication from one nation to the next. It was further recommended by Barret (2018) that communities need to be significantly involved in the initial stages of interception of programs to ensure fulfillment of the desired needs.

The findings from the study could also be compared to that of Lekapana (2019) who found out that the effects of drought on the socioeconomic of pastoralists, their means of coping up with the risks, and interventions made by the government within the county of Marsabit, Kenya. His study further determined that effective community organization can help ensure the sustainability of community development initiatives. When community members are actively engaged and take

ownership of projects, they are more likely to be sustained over the long term. Conversely, successful community development efforts can strengthen the sense of community and social cohesion, which in turn can facilitate further community organization and engagement. Besides, Ouma et al., (2012) to find out the post drought recovery strategies among the Turkana pastoralists in Northern Kenya and Sahal (2018) on the suitability of strategies for intervention on drought mitigation impacts on the livelihood of pastoralists in Kenya. The study further determined that effective community organization can help ensure the sustainability of community development initiatives. When community members are actively engaged and take ownership of projects, they are more likely to be sustained over the long term. Conversely, successful community development efforts can strengthen the sense of community and social cohesion, which in turn can facilitate further community organization and engagement.

4.5. Coefficients of Regression

The coefficient of regression was conducted to determine the level of influence of the independent variables on the dependent variable. The analysis showed that the linear regression model $Y= \beta 0 + \beta 1X1 + \beta 2X2 + \beta 3X3 + \varepsilon$ is $Y=0.608+0.655X1+0.816X2+0.674X3$. The model shows that when other factors are held constant, an increase in the use of independent variables (Participatory Disaster Risk Assessment, risk reduction programs and community organization) by 1% improves community development in Tiaty Constituency. The level of community development in Tiaty Constituency would be at 0.608 when all the variables are held constant. Therefore, a unit change in participatory disaster risk assessment would positively increase community development by a coefficient factor of 0.655. A unit increase in risk reduction programs would positively change community development by 0.816. A unit change in community organization would positively

change community development by 0.674. Hence, the independent variables positively influence the level of community development in Tiaty Constituency as presented in the table below.

Table 4.17: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	**Std. Error**	**Beta**	**t**	**Sig.**
1	(Constant)	0.608	0.214		0.481	0.765
	Participatory disaster risk	0.655	0.106	0.611	3.872	0.000
	Risk reduction programs	0.816	0.121	0.317	1.873	0.000
	Community Organizations	0.674	0.083	0.045	0.652	0.075

4.5.1. Correlation Analysis

Correlation analysis was conducted to test the existing relationship between the independent variable (Participatory Disaster Risk Assessment, risk reduction programs and community organization) and the dependent variable (Community development in Tiaty Constituency). The analysis showed a strong positive significant correlation between Participatory Disaster Risk Assessment and Community development in Tiaty Constituency. This was evident by the correlation factor of 0.655. The strong relationship was statistically significant since the significant value was 0.001 that was less than 0.05 significance level. This is an indication that a unit change in Participatory Disaster Risk Assessment causes a change of 0.655 in Community development in Tiaty Constituency

The study found a positive correlation between risk reduction programs and community development in Tiaty as indicated by the correlation of 0.816 and a significance value 0.001. This

finding shows that adoption of risk reduction programs can improve the level of Community development in Tiaty Constituency. This is an indication that a unit change in risk reduction programs causes a change of 0.816 in community development in Tiaty Constituency. The analysis showed a positive significant relationship between community organization in community drought risk management on community development in Tiaty Constituency (r=0.674, p=0.001). This is an indication that a unit change in community organization causes a change of 0.674 in community development in Tiaty Constituency. The findings are presented in the table as shown.

CHAPTER FIVE

CHAPTER FIVE, CONCLUSION AND RECOMMENDATIONS

5.1. Introduction

In subsequent narrative a summarized conclusions are outlined here having done relative comparison and contrasting outcomes on previously conducted similar assignment on the field of community engagement to spur economic growth and people wellbeing, while providing a snapshot of each the followings; the study outcomes together with possible impediment to the influence of community owned drought risk management in advancing locally driven development programs in Tiaty Constituency. Conclusive thoughts based on the findings and clearly specified recommendations are also mentioned.

5.2. Summary of Findings

In this part, researcher provides a snapshot of the result findings. The discussion here highlights core outcomes of study variables. Study variables included: Participatory Disaster Risk Assessment, risk reduction programs and community organization. Descriptive research design was used in collecting data which the researcher felt appropriate in discovering and measuring the relationships among the variables. Further the study used questionnaires to collect data from the interviewees. Data obtained was scrutinized by use of descriptive and inferential statistics. This study used primary data, which offered a first-hand account of information from the respondents using a questionnaire. Facilitation of the data analysis process was enhanced with the help of Statistical Package for the Social Sciences as most of the data was in quantitative form. The study sought to highlight relationships and trends using calculations such as correlation, regression, ANOVA and the data was then be presented in graphical format.

Objective one was to ascertain the influence of participatory disaster risk assessment on community development in Tiaty Constituency and was found out that stronger correlation between role of participatory approach disaster risk approach and community development in Tiaty Constituency. This indicated that the approaches emphasize the proactive involvement of community members in identifying and mitigating potential hazard threats. This engagement empowers residents by involving them in decision-making processes and problem-solving, which is a fundamental aspect of community development. As community members in Tiaty Constituency gain skills, knowledge, and confidence through PDRR initiatives, they are better equipped to participate in broader community development activities.

The study further established that participatory disaster risk assessment played a pivotal role in enhancing community resilience. Participatory approaches in disaster risk reduction help

communities in Tiaty Constituency build resilience to various hazards. This resilience extends beyond disaster management and contributes to overall community development. Resilient communities are better equipped to withstand shocks and stresses, ensuring continuity in development initiatives. From the findings, it is also clear that participatory disaster risk assessment enhances Knowledge Transfer and Capacity Building. Participatory approaches in disaster risk reduction involve knowledge sharing and capacity-building activities. Community members learn about risks, early warning systems, and response plans. This knowledge can be applied not only to disaster situations but also to other aspects of community development, such as education, healthcare, and sustainable agriculture.

Besides, participatory disaster risk assessment strategies in Tiaty Constituency often involve the assessment of infrastructure vulnerabilities and resource allocation for risk reduction measures. These assessments have led to improved infrastructure, such as stronger buildings, better drainage systems, and improved access to essential services within the constituency. On the other hand, it was established that these enhancements directly benefit community development efforts by providing a safer and more conducive environment for growth. In summary, Participatory Disaster Risk Reduction approaches are an integral part of community development efforts. They empower communities to actively engage in their own development by building resilience, promoting community ownership, enhancing social capital, and fostering self-reliance. Ultimately, PDRR contributes to the creation of more sustainable, resilient, and thriving This implies that participatory assessment contributes to a more informed and targeted approach to community development in Tiaty Constituency. However, it is noteworthy that respondents felt that their participation in vulnerability assessment and the subsequent ownership of projects could be

improved. The mean scores for these aspects were slightly higher, indicating that there is room for enhancement in these areas.

Objective two of the study was to ascertain the uptake in risk reduction programs by community drought risk management on community development in Tiaty Constituency, Kenya. The study found out that risk reduction programs related to environmental conservation and sustainable practices contribute to the long-term sustainability of communities in Tiaty Constituency. This s is an indication that unsustainable development is crucial for ensuring that future generations can thrive in a healthy environment. By addressing risks related to social issues like discrimination, inequality, or community disintegration, risk reduction programs can help build social cohesion and a sense of belonging within the community. Social cohesion is essential for effective community development in Tiaty Constituency. The study also found out that risk reduction programs provide hand holding help towards shaping the local conditions for attaining sustainable development by addressing various threats and vulnerabilities that can hinder progress. By reducing risks and building resilience, these programs contribute to the creation of stronger, more sustainable, and thriving communities in Tiaty Constituency.

Besides, the study further established that hazard assessment among the members of Tiaty constituency entails public participation of the residents to identify risk and opportunities that informed development programs. Furthermore, respondents agreed that disaster risk reduction planning contributes to appropriate resource allocation and utilization within the constituency. This implies that structured planning and allocation of resources based on risk assessment findings can lead to more efficient utilization of resources during drought events. Respondents also indicated that the successful implementation of drought risk reduction programs results in increased community self-reliance. This highlights the empowering effect of well-executed risk

reduction strategies in strengthening the management skills of organization to independently with stand and bounce back better hazard triggered shocks that threaten their productive assets. Successful risk reduction programs can influence policy changes at the local, regional, or national levels. These policy changes may further support community development by creating conducive and sustainable land use for ensuring resilient local communities thrive.

The third objective in conducting research was to ascertain the invaluable contribution made by community organizations in community drought risk management on community development in Tiaty Constituency, Kenya. It was established by the study that role of community organizations is a crucial factor in enhancing environmental community development in Tiaty Constituency. Having active community organizations like CMDRRC aids in the timely mobilization and utilization of resources, ultimately improving the community's resilience and preparedness in Tiaty Constituency. This emphasizes the role of organized efforts in ensuring that resources are readily available and efficiently used during drought events. Additionally, respondents recognized the link between commitment to peace and conflict management and increased self-reliance within the Tiaty Community.

The study also established that community organizations in Tiaty constituency can raise awareness about drought risks, their causes, and potential impacts. They can provide education and training to community members on drought preparedness, water conservation, sustainable agriculture practices, and other relevant topics. This knowledge equips community members to mitigate the effects of drought and adapt to changing conditions, contributing to long-term development. This highlights the broader context in which risk reduction efforts take place, indicating that factors beyond direct disaster management also contribute to the community's ability to withstand drought impacts. The study further determined that there is a high level of statistical significance between

the role of community organizations and environmental community development in Tiaty Constituency.

5.3. Conclusions

5.3.1. Participatory Disaster Risk Assessment on Community Development.

In conclusion, the findings from the survey conducted in Tiaty Constituency, Kenya, highlight the significant positive impact of participatory disaster risk assessment on community development. The key findings of the study highlight the significant correlation between PDRR and community development in the area. It can also be concluded from the study that assessments of infrastructure vulnerabilities and resource allocation for risk reduction measures have led to infrastructure improvements in Tiaty Constituency. These enhancements provide a safer and more conducive environment for community growth and development. The study also concluded that participatory disaster risk assessment has facilitated knowledge sharing and capacity-building activities among community members.

5.3.2. Risk Reduction Programs on Community Development

In conclusion, the study conducted in Tiaty Constituency, Kenya, underscores the pivotal role of risk reduction programs, particularly those focusing on environmental conservation, social cohesion, and hazard assessment through public participation, in promoting expanded livelihood and resilience building projects that meets the sustainability threshold of the 21st century as guided by the Sendai framework. The study also concluded that the empowering effect of successful risk reduction programs on community self-reliance highlights their potential to enhance the survival and live saving capabilities for communities to bounce back better from challenges. Lastly, the study highlights how well-executed risk reduction initiatives can influence policy changes at

various levels, ultimately creating an enabling environment for community development and sustainability in Tiaty Constituency.

5.3.3. Role of Community Organizations on Community Development

In its conclusion of the study that there is a vital contribution made by the local governing organizations such as CMDRRC in facilitating timely risk reduction programs, resource mobilization, and resource utilization during drought events. The connection between community commitment, sustainability, and self-reliance further underscores the importance of active community engagement. The study further concluded that the Committee (CMDRRC) enhances effective resource utilization during drought situations.

5.4. Recommendations

The influence of community drought risk management strategy in promoting community development is quite imperative to the success and sustainability of the risk mitigation measures. From experience people affected by hazards have immense contribution to offer generated from their own traditional coping mechanism when ever confronted by disasters of any kind, in this regards its paramount to consider their invaluable contributions in all stages of project cycle management aimed at addressing vulnerability and other exposure variables as stipulated in the common framework ending drought emergencies, additionally, their cumulative knowledge on disaster related shocks is a notch higher hence its good practices to tap on them. The subsequent discussions provide clear and specific recommendations that are aligned to each variable under study.

5.4.1. Participatory Disaster Risk Assessment on Community Development.

Based on the compelling findings of the survey in Tiaty Constituency, Kenya, it is strongly recommended that participatory disaster risk assessment (PDRR) approaches be further embraced and expanded as an integral part of community development initiatives in the region. These

findings affirm that PDRR empowers communities, builds resilience, enhances knowledge transfer, and leads to critical infrastructure improvements. To maximize the impact, community organizations, government agencies, and NGOs should collaborate to strengthen the implementation of PDRR strategies. Additionally, efforts should be directed towards enhancing community participation in vulnerability assessment and ensuring that community members have greater ownership of development projects.

5.4.2. Risk Reduction Programs on Community Development

Based on the comprehensive findings of the study in Tiaty Constituency, Kenya, it is strongly recommended that risk reduction programs, with a specific focus on environmental conservation, social cohesion, and community participation in hazard assessment, should be prioritized and expanded in the region. These programs provide direction for better community resilience, unity, and sustainable development. To maximize their impact, community organizations, government agencies, and stakeholders should collaborate to ensure that risk reduction strategies are well-planned, resource allocation is based on thorough risk assessments, and that policies are influenced to support such initiatives.

5.4.3. Role of Community Organizations on Community Development

Based on the study outcome for Tiaty Constituency, Kenya, it is advisable that community organizations, particularly entities like CMDRRC, should continue to actively engage in facilitating timely risk reduction programs, resource mobilization, and effective resource utilization during drought events. This comprehensive approach should prioritize the alignment of disaster risk reduction efforts with long-term community development goals, ensuring that the positive influence of community organizations extends to all aspects of community well-being in Tiaty Constituency.

5.4.4. Recommendations for Further Research

Regarding further studies, it is recommended that future assessment be undertaken to determine the community managed disaster risk management as a strategy for resource mobilization and further advancing local development. In addition, a further research is recommended to establish how community managed drought risk reduction contributes towards sectoral annual development planning and budgeting both at national and county level. Similarly, there is need to conduct CMDRR strategy geared toward promoting community development in other drought prone counties of Kenya to inform the uptake of CMDRR as a planning tool in Kenya.

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[APPENDICES]

[Appendix I: Questionnaire]

The questionnaire for this research contains structured questions on the role of community drought risk management strategies in community development in Tiaty Constituency, Kenya. You are therefore requested to be a participant in the research through filling the questionnaires. The responses will be highly confidential.

Section A: Bio Information

Indicate your organizations' name ……

Part 1: Demographic characteristics of the respondents

1. Respondents Gender

   Gentleman ☐ Lady ☐

2. Respondents Age

   Less than 30 years ☐ Between30 and 40 years ☐

   Between 40 and 50 yea ☐ More than 50 years ☐

3. How long have you served within Tiaty Constituency?

1 year or less ☐ between 1 and 3 years ☐

between 3 and 6 years ☐ beyond 6 years ☐

Level of Education for the Respondents

Degree Level ☐

Master's Level ☐

PhD ☐

PART B: EFFECT OF PARTICIPATORY DROUGHT RISK ASSESSMENT ON COMMUNITY DEVELOPMENT

1. Do the operations revolve around community and drought risk assessment in Tiaty Constituency?
   Yes [ ]
   No [ ]

2. Have you ever been in participation in community risk assessment in Tiaty constituency?
   Yes [ ]
   No [ ]

3. Does your work involve community risk assessment to a greater extent?
   Yes ☐ No ☐

The statements presented in a likers scale indicate the strategies of risk of drought reduction within Tiaty constituency. Please use the key below to show your level of agreement.

5 A much great extent
4 Greater Extent
3 Moderate Extent
2 Low Extent

1 Very low extent

Statement	1	2	3	4	5
Hazard assessment participation by the respondents in Tiaty contributes towards high self-reliance upon occurrence of droughts.					
Participating in hazard assessments leads to ownership of the risk projects for droughts, hence enhancing sustainability					
Hazard assessment among the members of Tiaty constituency entails participation of the residents					
Residents participation in vulnerability assessment is useful in a achieving more reliance among the community members in Tiaty.					
Residents participation in vulnerability assessments contributed to ownership of projects in Tiaty constituency					
Better utilization of resources is achieved to eradicate drought by those residents participating in risk vulnerability assessment.					
Drought risk assessment contributes to no effect to development of community in the Tiaty constituency					

PART C: ROLE OF RISK REDUCTION PLANS ON COMMUNITY DEVELOPMENT

4. Do the operations of community organization revolve around community and drought risk management in Tiaty Constituency?
   Yes [ ]
   No [ ]

5. Have you ever been in participation in community development projects in Tiaty constituency?
   Yes [ ]
   No [ ]

6. Does your work involve monitoring and evaluation to a greater extent?

Yes ☐ No ☐

The statements presented in a likers scale indicate the strategies of risk of drought reduction within Tiaty constituency. Please use the key below to show your level of agreement.

5 A much great extent
4 Greater Extent
3 Moderate Extent
2 Low Extent
1 Very low extent

Statement	**1**	**2**	**3**	**4**	**5**
Risk reduction plans in disaster contributed towards increased self-reliance in the times of drought					
Disaster reduction plans participation enhances project ownership thereby influencing sustainability					
Disaster risk reduction planning contributes towards resource utilization in Tiaty constituency during drought					
Increased self-reliance influences contingency planning at times of drought					
Ownership of project is enhanced by the contingency planning in Tiaty during drought, hence sustainability during drought					
Effectiveness in utilizing resources in Tiaty is based on the contingency planning during drought					

There is no significant effect on community development with respect to risk reduction plan in Tiaty during drought.					

PART D: ROLE OF COMMUNITY ORGANIZATIONS ON COMMUNITY DEVELOPMENT

7. Do the operations of community organization revolve around community and drought risk management in Tiaty Constituency?
   Yes [ ]
   No [ ]

8. Have you ever been in participation in community development projects in Tiaty constituency?
   Yes [ ]
   No [ ]

9. Does your work involve monitoring and evaluation to a greater extent?
   Yes ☐ No ☐

The statements presented in a likers scale indicate the strategies of risk of drought reduction within Tiaty constituency. Please use the key below to show your level of agreement.

5 A much great extent
4 Greater Extent
3 Moderate Extent
2 Low Extent
1 Very low extent

Statement	**1**	**2**	**3**	**4**	**5**
Communities in drought management participation contributes towards an increase self-reliance in Tiaty constituency					
Commitment and participation in the reduction of disaster enhances sustainability during drought risks					

Rediction in the disaster risk in communities contribute to appropriate resource utilization in Tiaty during the times of drought					
Self-reliance is increased by the level of commitment in peace and conflict management.					
The committees for managing peace and conflict in Tiaty constituency own projects during drought to enhance sustainability					
Committee for easily enhance resource utilization effectiveness during drought in communities in Tiaty Constituency					
There is no effect to the community development in the constituency during droughts in community organization.					

PART E: M & E PARTICIPATION ON COMMUNITY DEVELOPMENT

10. Do the operations you carry entail evaluation and monitoring of the community and drought risk management in Tiaty Constituency?
    Yes [ ]
    No [ ]

11. Have you ever been in participation in the evaluation and monitoring of projects in Tiaty constituency?
    Yes [ ]
    No [ ]

12. Does your work involve monitoring and evaluation to a greater extent?

    Yes ☐ No ☐

The statements presented in a likers scale indicate the strategies of risk of drought reduction within Tiaty constituency. Please use the key below to show your level of agreement.

5 A much great extent
4 Greater Extent
3 Moderate Extent
2 Low Extent
1 Very low extent

Statement	1	2	3	4	5
Participation in M & E by the residents contributes towards self-reliance upon occurrence of drought in Tiaty constituency.					
M & E participation greatly contributes towards ownership of DRR projects in Tiaty to enhance higher stability					
Utilization of resources is enhancing participation of the residents in monitoring and evaluation in Tiaty					
M & E reporting and documentation is key in achievement of self-reliance in Tiaty					
Documentation of M & E as well as reporting is key in ownership of projects in the constituency of Tiaty when it comes to sustainability enhancement					
A well-documented report on monitoring and evaluation is key to the community when it comes to utilization of resources within the constituency					
In drought seasons, there is no significant effects on monitoring and evaluation within Tiaty					

[Appendix II: Consent Form]

Name of study: Analysis of the role of community drought risk management strategies in Tiaty Constituency's community development in Kenya.

Name of Researcher : Abdullahi Ahmed Osman

Date: _____

a) I_____ have had clear understanding if all the informant provided in the sheet.

b) I have been granted a chance to raise concerns on the research study

c) I have a clear understanding that being part of the study may include oral and written responses.

d) I have enough time to make decisions and accept to be part of the research study.

e) I have a clear understanding and confidence that my personal information will not be shared to those who don't take part in the study.

f) I believe that the response's provided by the study will be kept highly confidential and will not be shared to other people against my wish.

g) I have very deep understanding that my responses maybe put on publications, website pages and reports that can further be used by other researchers in future.

h) I hereby accept to append my signature in the copyrights that I hold to the material in relation to this study to Mr. Abdullahi Ahmed Osman

i) I have a deep understanding that I can choose not to provide any response to the study questionnaires and can ant any time withdraw from the study.

Participants Signature: _____ Date: _____

Signature for the Researcher: _____Date: _____

[Appendix III: Research Study Budget]

Research Study Activities	**Expected expense**
Project development Expenditures	65,000
Pilot study Expenditures	35,000
Transportation Expenditures	20,000
Communication Expenditures	10,000
Internet Expenditures	5,000
project compilation expenditures	15,000
Publishing Expenses	40,000
Miscellaneous Expenses	15,000
TOTAL	205,000

[Appendix IV: Research Work Plan]

TIME / **ACTIVITIES**	**July 2021**	**July 2021**	**August 2021**	**March 2022**	**April 2022**	**May 2022**	**June 2022**	**July 2022**
Development of the proposal								
Review of the Literatures								
Checking for corrections								
Proposal Defense								
Conducting a Pilot Study								
Data Collection Procedure								
Analysis of the obtained data								
Compilation of the entire project								

Submission of the final research project								

[Appendix V: Map of Tiaty Constituency]

[Appendix VI: KII INTERVIEW GUIDE]

General information

a) Those who stay in Tiaty constituency: should indicate whether they are permanently staying there or on a temporal basis
b) Family Size: Establish composition and family size
c) Heard Size: Composition and establishment of the actual size
d) Any position held

Community development and participatory development of community

a) Is there an existence of informal or formal risk identification mechanism?
b) What's your opinion on informal or formal risk mitigation?
c) Has reduction of risk been of great benefit to the community and how?
d) To what credit quantity can be linked with the strategies for risk reduction?

Plans for risk reduction and development of a community

a) Establishing informal and formal plans for dealing with risks that come out of drought
b) Establishmenent on whether the plans and in full operation of not
c) Establishing importance of the plans in community development sustainability
d) How much credit can be fully attributed to risk strategies for community development?

Community development and community organization

a) Organizational community establishment in Tiaty
b) The establishment should define the operations and functionality
c) Identification of community development agenda
d) Determination of the credit amount channelled to risk management and reduction.

Participatory monitoring and evaluation p and community development

a) Is there a project monitoring and evaluation plan in place
b) Is the community involved by the project officials in the monitoring and evaluation?
c) Is it useful in the opinion of the project beneficiaries?
d) How much of credit can be attributed to drought risk reduction strategies?