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TECHNICAL PAPER ON

The Nexus Between Climate Change and Land Conflict in Turkana County

September, 2020

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Abbreviations

ACTED	Agency for Technical Cooperation and Development
ASALs	Arid and Semi-Arid Lands
CIDP	County Integrated Development Plan
EbA	Ecosystem Based Adaptation
GDP	Gross Domestic Product
GoK	Government of Kenya
IPCC	Intergovernmental Panel on Climate Change
NBS	Nature Based Solutions
NDMA	National Drought Management Authority
UN	United Nations
UNDP	United Nations Development Programme

Executive Summary

Climate change – the ultimate "threat multiplier" – is a global defining threat to peace and security in the 21st century. Its impacts have increased the insecurity of vulnerable communities in developing countries, exacerbating loss of livelihoods, food insecurity, competition over scarce resources, human mobility and political and economic instability. This is especially in situations where multiple stressors already exist, for instance in cases where climate change impacts actual or perceived resource scarcity, patterns of human migration within contexts of existing fragility, typical of communities in Turkana County. Climate change effects exacerbate non-climatic drivers of resource-based conflicts in the Turkana County such as population growth, infrastructural and industrial development, expansion of cultivated crops and subdivision of formerly communal grazing area into individually owned private parcels.

Land-based conflicts in Turkana County are mainly attributed to land degradation, resulting to decline in availability and access to key productive resources including crop and grazing lands, water and pastures resources. Key climate change manifestations in Turkana County include floods, severer droughts and increasing temperatures, and these have been projected to increase in future with more devastating implications on land-based livelihood systems especially in ASAL setups in Kenya, including Turkana County.

Gender norms, roles, responsibilities, behaviors and power structures determine how different gender categories experience and manage such conflicts. Understanding and meaningful consideration of these varied experiences are key in defining gender responsive peacebuilding. Gender-blind actions against climate-driven land conflicts exacerbate vulnerabilities of groups to such conflicts, deepen existing inequalities and aggravate climatic and security threats.

Considering the complex nature of climate driven land conflicts, the intervention actions need to take a multi-stakeholder approach and be evidence-based. This implies the need for mapping and analysis as well as understanding of non-climatic drivers of conflicts and how the current and projected climate change will influence and multiply their effects on conflicts among communities and other land resource users across the county. Policies and strategies need to consider the importance of good governance, holistic natural resource management, interaction among sectors, as well as unintended negative effects of climate adaptation or emission reductions, including those that influence land, water and forest tenure.

Key messages

i. Climate change has a **complex relationship** and acts as a key **'threat multiplier'** that leads to or exacerbates resource based conflicts by aggravating effects of non-climatic drivers such as population growth, infrastructural and industrial development, expansion of cultivated crops and increasing land privatization
ii. **Shrinking access** and **increasing degradation** of land resources, mainly water and grazing resources, are the main cause of resource-based conflicts in Turkana County

iii. **Policy gaps** and **institutional inadequacies** remain key limiting factors to finding lasting solutions to resource-based conflicts in Turkana County
iv. Gender norms, roles, responsibilities, behaviors and power structures determine how **different gender categories experience and manage such conflicts**. Understanding and meaningful consideration of these varied experiences are key in defining gender responsive peacebuilding.
v. Addressing land-based conflicts in Turkana County needs to employ **integrated multi-stakeholder approaches**, guided by evidence and take into account diverse and completing priorities of all stakeholders

Recommendations

- Fast-track formulation of the **County Peace Policy and Strategy** and other **legal frameworks** that integrate customary institutions to guide secure land tenure, promote sustainable resource management and conflict resolution among competing land user groups in the county

- Conduct county specific **situational analysis on the status, trends and drivers** of climate driven land conflicts to inform landscape and livelihood planning and decision-making built upon evidence

- Strengthen **research, technical knowledge** and **institutional capacities** on early warning systems, climate information services, conflict resolution, resource management and climate change governance for reduced climate risks and violent encounters over land resources within the count and at cross-border levels

- Strengthen **coordinated** and **cross-sectoral approaches** on land and development planning that enhance multi-stakeholders dialogues, lesson-sharing and scalability of best practices on inclusive resilience building, disaster risk management and climate driven resource conflict.

- Promote **Ecosystem based Adaptation (EbA)** to strength sustainable and community-centred management of natural resources. EbA is one of the most effective nature based solutions (NBS) that enhances climate adaptation and contributes to biodiversity conservation thus reducing degradation of key natural resources which is the major cause of resource based conflicts.

- Generate and utilize **gender-disaggregated data** to inform gender responsive actions plans, policies and strategies on climate resilience, conflict management and land resource access and utilization.

1 Introduction and Context

Climate change has become the largest global environmental determinant of peace and security. Its impacts have disproportionate effects on populations across the globe, but more devastating on the world's most vulnerable communities in the developing countries. The knock-on effects of climate change could exacerbate existing conflicts, spill insecurities into neighbouring countries and communities, thus creating new bases for insecurity and conflicts (Blondel, 2012). The destruction, over-exploitation and competition over declining land resources such as fresh water, dry season grazing resources and fertile soils affect livelihoods and increase the risk for conflict. Climate change may exacerbate existing challenges, and has been identified at the international level as a serious aggravating factor to violent conflicts (Julia, 2018). The relationship between climate change and security has been recognised and indicated as an important matter by both United Nations (UN) General Assembly and the UN Secretary General (Blondel, 2012).

Globally, Kenya is one of the countries regarded as most sensitive and vulnerable to climate change due to high dependence on climate-sensitive agriculture and natural resources for household livelihood and national economy. The country's vulnerability to climate change is attributed to its exposure to increasing temperature, higher precipitation variability, and fast increase population (Opiyo *et al.,* 2015). The United Nations Development Programme (UNDP) projections indicate that Kenya's average annual temperature will rise by between 1°C and 5°C during the next century, while during the periods the rains will remain the same, but each rainy season will become wetter. Global models have further predicted 40% increase in rainfall in northern Kenya by the end of the century. These projected changes will lead to increased impacts of extreme weather events, particularly extreme temperatures, severer drought and floods. The primary connectors between the climate system and the human societies, particularly in the arid and semi-arid (ASAL) regions of Kenya include land and land use and associated land-cover changes.

Turkana is one of counties located in the ASALs of Kenya and is characterized by warm and hot climate. The temperatures in the county range between 20ºC and 41ºC with an average of 30.5ºC. The county experiences temporally and spatially erratic and unreliable rainfall patterns and distribution; with two rainfall seasons: long rains occurring between April and July and the short rains between October and November with an average rainfall of between 150mm and 550mm (NDMA, 2016). The rainfalls in the county are characterized by violent storms, flush floods, surface runoff and extremely high rates of evaporation.[1] The projected changes in the climatic systems in Kenya will have more devastating effects in the northern region of the country including Turkana County. Extreme weather events particularly more common and severer droughts and floods as well as rise in the overall temperatures will be experienced in

[1] Turkana County Investment Plan, 2015-2019.

the county. These changes will have far reaching socio-economic implications on local livelihoods and economies attributed to increased degradation of water and pasture resources, decline in crop yields and increased livestock mortalities among others (Thornton, 2010).

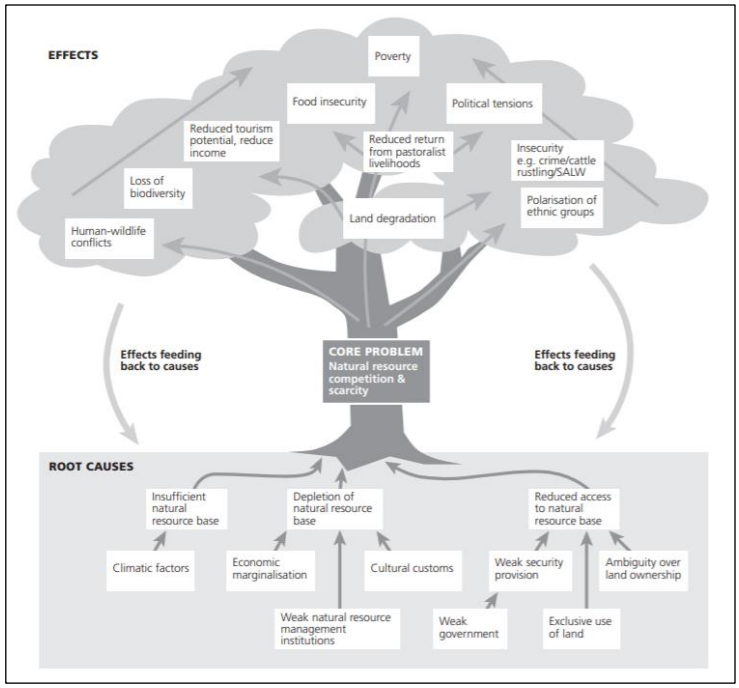

Figure 1: Conflict tree for natural resource conflict dynamics in northern Kenya. Source: Campbell et al., 2009

While projected increase in the extreme weather events will have compounding effects on the situation, it is already clear that the terrain and landscape of Turkana County have substantially changed as a result of various climate and non-climate drivers. These have resulted to direct and indirect implications on lives and livelihoods and other socio-economic systems, including decline in the productivity and availability of natural resources thus triggering resource-based conflicts in the county. Figure 1 depicts effects of climatic and non-climatic drivers on natural resources, loss of livelihood and increase in risks. Food insecurity, water scarcity, altered disease patterns, displacement of communities, migration, population growth, and human conflicts among communities have been continuously witnessed and reported in the county (Waila *et al.,* 2018).

Various scientific studies and reports have widely discussed the effects of climate change and variability on hazards, such as resource-based conflicts.[2] Climate driven changes influence factors that lead to or exacerbate violent conflicts. For instance, reduced access to water and increased drought events, as evident in Turkana County, undermine livelihoods of vulnerable households and communities thus increasing food insecurity. Growing scarcity of natural resources subsequently lead to local competition which becomes unmanageable in the absence or weak institutions for conflict resolution. Fragile communities and environments with a history of conflict are the most vulnerable, for instance pastoral communities in Turkana County. Climate-related insecurity and conflicts will grow in magnitude under the projected rise in adverse effects of climate change (Schaar, 2017).

In Turkana County the limitation of pastoral mobility by the local and neighbouring governments (Uganda and Ethiopia) has decreased the adaptive capability of pastoral communities. This is

[2] Murray, V., & Ebi, K. L. (2012). IPCC special report on managing the risks of extreme events and disasters to advance climate change adaptation (SREX).

Figure 2: An armed herder drives his cattle to grazing fields. Source: Anthony Langat/Al Jazeera

particularly critical as an increase in rainfall variability and higher drought frequency, associated with global climate change, pose significant challenges for pastoralists (Opiyo *et al.,* 2014; Schilling *et al.,* 2015). However, most detrimental to the resilience of pastoralists in the county and their livelihood in general are the violent conflicts between pastoral groups, as well as between pastoralists and other land resource users within and beyond the county borders. Studies have established that each year hundreds of people lose their lives in violent attacks, called raids, executed to acquire livestock or gain control over water points and pasture resources in the county (Schilling *et al.,* 2015). Within Turkana the conflicts are particularly violent in southern Turkana, where the Pokot of Kenya and Uganda raid the Turkana and vice versa (ibid). At the cross-border level, the Ilemi triangle, a territory of about 14,000km^2 whose ownership has been violently disputed by the neighbouring Turkana of Kenya, Merille of Ethiopia and Toposa of South Sudan. The interethnic conflict in the Ilemi triangle is largely driven by limited access to pasture and water resources in the triangle.

Climate change does not only exacerbate known influencers of conflict such as issues of natural resource management and governance, but also acting as a 'threat multiplier' through issues associated with competition over resources. If not addressed, the effects of climate change will continue to embed destructive dynamics between poor resource management and insecurity, while enhanced local and national resource governance and management would provide a platform for active peace and sustainable development (Blondel, 2012). On the other hand, conflicts increase exposure and vulnerability to climate-related disasters as they lower capacities and capabilities to cope with current impacts and anticipated risks. For instance, exposure to violent conflict can alter and hinder access to livelihood opportunities, such as limiting access to water and grazing resources, in pastoral set ups such as Turkana County. It also leads to displacement of communities from their livelihoods, putting people at higher risk of experiencing more natural resource and climate-related disasters or violence (Opitz-Stapleton *et al.,* 2019).

2. Changing Livelihood Systems and their Implications on Resource-based Conflicts in Turkana County

Livestock production in pastoral approach is the most appropriate land use practice, and main source of livelihood for over 60% of the population in Turkana County (Watete *et al.,* 2016). The livestock systems in the county do not only provide means of livelihood but also source of employment, incomes and a livelihood security for most households in the county. Major categories of livestock kept include cattle, camels, donkeys, sheep and goats. Common subsidiary and/or alternative livelihood strategies for households and communities in the county include agro-pastoralism, employment (formal and casual waged labour and business), crop cultivation and fishing (NDMA, 2016). Some of the crops grown in the area include cassava, millet and sorghum – most of which do not require much water and can grow under harsh climatic conditions. Fishing is particularly practiced in Lake Turkana. The interactions between various land-based sources of livelihood is important particularly with regards to availability and access to productive resources among communities.

The changing climate patterns and non-climatic systems such as population growth, have influenced shifts in livelihood systems. Households have also increasingly embraced firewood selling and charcoal burning to supplement their livelihoods. For instance, firewood and charcoal burning have become primary source of fuel for inhabitants of the Kakuma refugee camp and urban centers within and beyond Turkana County. Studies have indicated that these alternative livelihood options are comparatively less viable and unsustainable, considering the shifting conditions and availability of natural resources (Waila *et al.,* 2018). They have detrimental effects on both the community and surrounding environment. Although selling charcoal meets a short-term need as a source of income, the resulting deforestation and long-term impact on persistent drought and environmental degradation will ultimately contribute to increased food insecurity, loss of ecosystem services, and increased vulnerability of this population (ibid).

2.1 Pastoral systems and its relationship with land-based conflicts

Like in other rangelands of Kenya, pastoral systems in Turkana County have been constrained by poor access to key productive resources including pasture and water (Opiyo *et al.*, 2009). This situation has been exacerbated by the effects of periodic drought, insecurity, pests and diseases outbreaks, ethnic and resource-use conflicts, and depletion of livestock-based livelihood assets (Mureithi and Opiyo, 2010). Droughts which have increasingly become more frequent and severe have forced pastoralists to migrate constantly in search of water and pasture across the region, sometimes even across the national borders, thus often leading to intra and inter-communal wars and conflicts over the scarce resources (NDMA, 2016). Figure 3 depicts cause-effect relationship between pastoral systems, climate variability and change and resource-based conflicts.

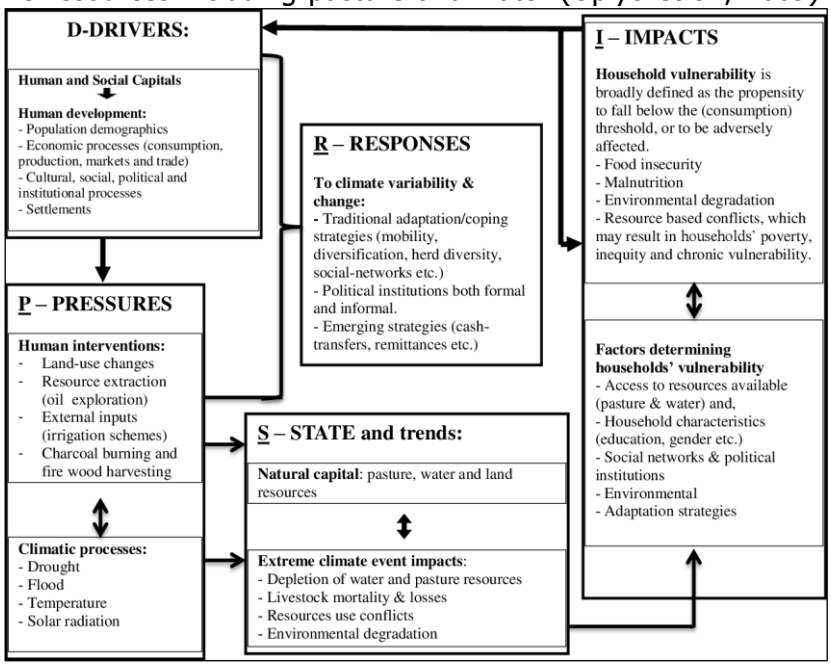

Figure 3: Pastoralist household's cause – effects relationship with climate variability and change. Source: Opiyo, 2014

Most resource use conflicts have been reported around key natural resources: water, pasture and land for settlement. Demand for the hitherto dwindling water and pasture resources has heightened the conflicts, which tend to be seasonal in nature and increases during the dry periods (Oguge, 2006). The conflicts have pitted communities against each other, and often result in loss of life and property. It is expected that conflicts based on access and utilization of natural resources will increase in future in Turkana County like in other ASALs due to rising resource scarcity based on expected increased effects of climate change and variability.

Unsuitable land management practices, such as overgrazing, illegal and excessive fuelwood collection and poor resource governance have become more prevalent, mainly as result of

institutional tenure barriers. This has exacerbated the fragility of dryland ecosystem and therefore further degradation of pastures and other grazing resources in the county.[3]

The context of pastoral mobility in Turkana County, like other counties in ASAL regions of Kenya, has changed radically over time, particularly during the last two decades. This has been attributed to rangeland fragmentation and degradation, boundary formation, increased droughts, violent conflicts, as well as political marginalization and forced settlement schemes create resources and mobility constraints for pastoralists who are increasingly dependent on livestock mobility. Rangeland-enclosing processes are becoming more common while farmer–herder conflicts are increasing (Turner, 2004). Additionally, conservation and large-scale infrastructural developments to modernize pastoral areas create significant obstacles for the continuation of mobile pastoralism while adding to the dynamic of further fragmentation, marginalization and conflict (Pas, 2018).

2.2 Increasing Crop Cultivation

Figure 4: Achukule members weeding their crops in Lokichar, Turkana county Kenya. Source: USADF, 2016

In response to reduced productivity and reliability on pastoral livelihoods and the overall impact of climate change, many households in the county are increasingly embracing alternative sources of livelihoods. Crop cultivation which over the years has been practiced in pockets of arable land within flood plains and along riverine areas in the county has been increasingly expanded in the recent yeas particularly in formally dry season grazing lands. This has continuously created and aggravated conflicts over access and utilization of land between pastoral households and crop cultivators in the county, for instance in the widely conflicted Ilemi triangle (Campbell *et al.,* 2009). The County government of Turkana has also increased its investments to expand crop cultivation through increasing the size of land under irrigation. The expansion of crop cultivation do not only lead to loss of dry season grazing areas but also lead to fencing and fragmentation of grazing areas, thus hampering pastoral mobility.

[3] Draft Turkana County Climate Change Policy, 2020. Link: https://turkana.go.ke/wp-content/uploads/2020/06/Turkana-County-Climate-Change-Bill-2020-Draft-2-_10th-June-2020.pdf

2.3 Other land use changes that affect access and utilization in Turkana County

Infrastructure development, particularly resulting from the recent discovery of oil in Turkana County threaten pastoral systems and therefore affecting resilience to drought and other shocks. Studies have indicated that the discovery and exploitation of oil will exacerbate pre-existing tensions and likely result in full-blown violent conflicts among the Turkana's and foreign investors such as Tullow Oil (Eliza *et al.,* 2015). This is basically due to conflicting land use priorities between investors, pastoralists and other local users in the county. In relation to the oil discovery and other development agenda in the county, there is growing expansion of road network. While it is appreciated that oil-driven development has the potential to open up northern Kenya and integrate it into the national, regional, and international economy, it is however noted that recent developments particularly fencing of large tracts of grazing land for proprietary oil exploration is constraining herd mobility and migration, which is a key drought coping strategy for pastoral systems.

The exploration of the oil is likely to be more ambivalent for pastoral communities. A study by Johannes et al. (2014) concluded that oil is part of "a tinderbox of risk and opportunism for violent conflict, lawlessness, and potential armed rebellion". Figure 5 indicates a mix of negative and positive effects of oil exploration and community interests in Turkana County.

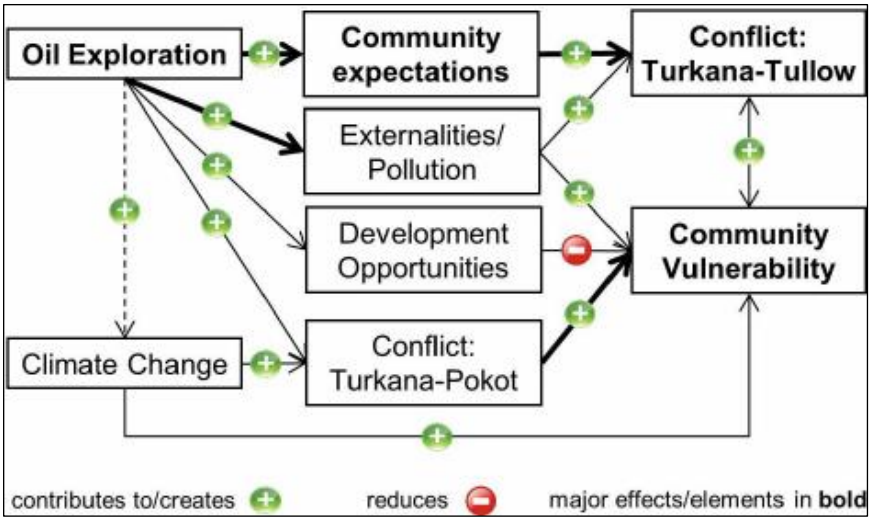

Figure 5: Effects of oil exploration on vulnerability of pastoral communities.
Source: Schilling et al., 2015

3. Land Degradation as a Major Driver of Land Resource Conflicts in Turkana County

Figure 6: A picture showing a severely degraded area by soil erosion in the rangelands. Source: Lawrence Kiage

Land degradation is considered the most significant driver of natural resource scarcity and therefore increasing competition. It is widely acknowledged that land degradation remains an important problem hindering sustainable development of many regions in the globe, especially Sub-Saharan Africa (Owino *et al.,* 2019). Land degradation is complex and varies from place to place and over time. Moreover, it is poised to diminish land productivity, especially in dry areas. It can also lead to loss of vegetation cover and thus make them susceptible to climatic hazards, particularly droughts. Without sustainable use and management of land and soil resources, global sustainable development and environmental sustainability are unlikely to be attained (ibid).

Land degradation has had serious economic implications nationally; causing an annual economic loss of USD 390Million or 3% of Kenya's GDP (Owino *et al.,* 2019). It also threatens livelihoods of millions of rural people who depend solely on land ecosystem goods and services. The most critical driver of land degradation is poor land management which include destruction of natural forests for timber, charcoal production, expansion of agricultural land, overgrazing, mining and infrastructure projects, thus leading to increased runoff, flash flooding, soil erosion, reduced infiltration and siltation of rivers and dams. These have ultimately threatened availability and productivity of rangelands in Kenya, thus adversely affecting livestock and other land-based livelihood systems (Mureithi and Opiyo, 2010).

It has been estimated that 15 to 21% of rangelands in north-western Kenya becomes inaccessible each year for various reasons including degradation. Resource access and use is increasingly diminishing, which is compounded by land use transformations and population growth (Mureithi and Opiyo, 2010). According to Turkana County integrated Development Plan of 2018, about 50% of the county is highly degraded due to overgrazing leaving vegetation cover without enough time to regenerate, deforestation for charcoal production, infestation of invasive weeds and unsustainable irrigation practices resulting to salinization (Owino *et al.,* 2019).

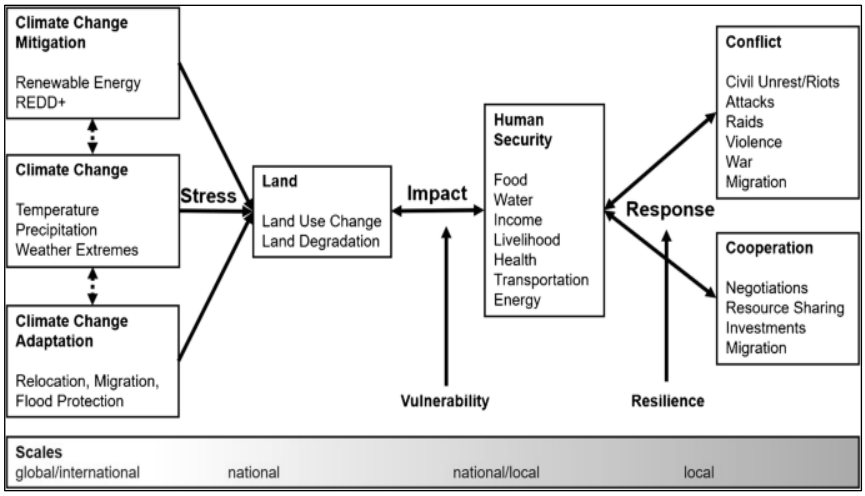

Figure 7: Direct and indirect effects of climate change on resource availability and potential conflict and cooperation dynamics. Source: Froese & Schilling, 2019

Climate change has exacerbated desertification and land degradation, with adverse impacts on the economic benefits and livelihoods derived from the forestry sector, as well as biodiversity and other environmental services (Stiebert *et al.,* 2012). Currently, land degradation continues to threaten food security, water quality and quantity, grazing areas and climate change adaptation and mitigation strategies, thus leading to huge economic losses and destitution of pastoral communities in the county.[4]

Land degradation reduces the viability of pastoral and crop systems as well as other land-based livelihood systems, and directly contributes to increased food insecurity and vulnerability particularly during drought periods. Land degradation has the indirect effect of fuelling ethnic and political tensions – when pasture is not available within a community, members are forced to look beyond their boundaries, which can be contentious in the absence of an arrangement with neighbouring groups. Climate change only exacerbate this situation (Campbell, 2009). An increase in the intensity and frequency of extreme rainfall events, as projected, will combine with land degradation to increase the risk of floods and drought in the region. Increases in the variability of rainfall and changes in its distribution will alter pastoral migrations and could increasingly bring groups into competition over watering holes. Overall, land degradation has been considered to be of high significance in negatively impacting human livelihoods. Climate change could amplify these impacts and increase the chances of them becoming the causes of further tensions (ibid).

The exotic invasive *Prosopis juliflora* has increasingly become an important colonizer, especially on riverine floodplains, along roadsides, and near human settlements. It has increasingly become a key ecological and socioeconomic threat (Opiyo *et al.,* 2014), resulting to loss and degradation of pasture and other livestock feed resources. Such invasive species have exacerbating effects on availability and access to grazing lands for pastoral households in the county.

[4] CIDP (2018) Turkana County Integrated Development Plan (CIDP II)-2018-2022

4. Climate Change and Resource-based Conflicts in Turkana County

Increasing temperatures, higher precipitation variability, extreme events due to climate change affect human security through a variety of interconnections. One of the interconnections is land use and land use change which are expected to be strongly influenced not only through the changing climatic conditions but also through human interference resulting from population growth, rapid urbanization and consequent increasing pressure on ecosystem resources. Further, the relationship between climate and conflict are often indirect while human adaptive capacity to climate change is sensitive to conflict (Froese & Schilling, 2019).

Many studies have sought to establish causal chains among resource scarcity, climate-related factors and conflict. They have indicated that climate-related natural resource scarcity or extreme weather events are not the sole cause of resource-based conflicts. Rather, for slow- and rapid-onset events, with short- to long-term effects, climate acts as a 'threat multiplier'. In other words, climate factors compound existing stresses to increase the likelihood of violent conflict. Existing stresses and vulnerabilities include various forms of social, political and economic instability, such as lack of income and job opportunities for young men, or ethnic tensions (Peters *et al.,* 2020). The Intergovernmental Panel on Climate Change's Special Report on Climate Change and Land has indicated that human-induced climate change contributes to land degradation, both singly and in combination with other human drivers (IPCC, 2019). Understanding these relationships is important in informing actions to stop, manage, mitigate or even reverse resource scarcity, along with other compounding drivers of conflict and fragility in resource-poor contexts, such as Turkana County.[5]

Studies on the relationship between climate change and conflicts in pastoral setups in Kenya have established higher intensities of livestock raids during drier months and drought years. This has been attributed to migration/herd mobility, which is a strategic practice to exploit spatially different areas of vegetation types and productivity by pastoralists during dry months or when droughts occur. This migration brings pastoralists closer to the territory of hostile groups, increasing the likelihood of violence (Froese & Schilling, 2019). Such intra and inter communal conflicts are influenced by resource scarcity and abundance which are particularly sensitive to extreme rainfall variations. It is recognized that pressure on land and water and subsequent food scarcity could escalate low intensity conflicts. The likelihood of sustained violence increases when drought is combined with unfavorable social and political conditions, such as political marginalization and poor citizen-government relations. These conditions favor development of more radical attitudes or even violent interventions against the government. Pastoral communities in Turkana County have witnessed such drought-exacerbated conflicts. These have been observed in the cross-border armed conflict over resources among Turkana pastoralists in northeastern Kenya especially along the border regions of Uganda, South Sudan

[5] Global assessment report on biodiversity and ecosystem services. 2019 Bonn: IPBES: https://ipbes.net/global-assessment.

and Ethiopia. The pastoral conflicts in northern Kenya, including Turkana County, have been labelled 'the world's first climate change conflicts' by some observers and development agencies (Funder *et al.*, 2012)

The impacts of climate change are expected to continue in the coming years based on climate projections which have indicated further increase in extreme weather events such as more frequent and intense droughts, heavier rains, and flash floods (Omondi *et al.,* 2014). These will have far reaching adverse effects on natural resources and key livelihood systems including crops yields and livestock productivity, thus socio-economic and livelihood systems in the county. Adverse societal factors such as poor land-use practices, conflicts, poverty, poor communication infrastructure and lack of (or poorly implemented) traditional coping mechanisms are also major catalysts of drought disasters in the County (Wanjohi, 2010).

4.1 Some of the Major Categories of Resource-Based Conflicts in Turkana County

i. ***Internal Conflicts:*** Clan-based raiding of livestock has been traditionally practiced and culturally approved among the pastoral communities in Turkana. Competition over scarce grazing fields, water resources and pasture escalate interethnic animosity often resulting in armed conflicts, which are predatory in nature and much more destructive. In addition, ready market for stolen livestock for example in Kakuma refuge camp has exacerbated this type of conflict.

ii. ***Cross - border Conflicts:*** Turkana County reveal high number of trans-national raids by Tepeth, Jie, Dodoth, Matheniko, Moroto (Uganda), Merille, Dongiro, Dassenech (Ethiopia), Toposa, Nyagatom (South Sudan) groups. Analysis of the aggressors involved across the conflict sites in Turkana reveal that Inter-County conflicts contribute towards majority of conflict cases with the number of raids from Pokot being very high in Turkana South and East regions. Over 68% of Turkana people are traditionally pastoralists and are constantly on the move as is the case of the Nayanae - Ngkalalio pastoral group which travels 325 km in their grazing cycle along South Turkana - Pokot border, which in turn makes them vulnerable to Pokot attacks. This is followed by high incidence of conflict within various Turkana clans themselves.

iii. ***Expansionism:*** This is the policy of territorial expansion. Conflict between the Turkana and Pokot presents one of the most significant contributors to humanitarian needs and threats to drought resilience for vulnerable communities in Turkana County. An assessment conducted by Agency for Technical Cooperation and Development (ACTED) indicates that the re-drawing of administrative boundaries as part of Kenyan devolution processes, elections, and the discovery of oil in Turkana county are increasingly

polarizing ethnic identities and intensifying violent struggles over access to key water and grazing resources. This conflict has displaced thousands of persons, prevented agro-pastoral communities from accessing large areas of pasture and water, and hindered the mobility of migratory herders (a crucial drought coping mechanism).

4.2 Socio-economic Impacts of Resource-based Conflicts in Turkana County

i. ***Displacement & Loss of human life:*** The high number of deaths and displacement in relation to the number of injuries indicates that the availability of small arms has made raiding more deadly. In the event of a raid, wounded raiding fellows, especially when unable to walk, are left behind and often shoot themselves to 'escape' punishment by the attacked group.

ii. ***Livestock Loss/death:*** Occasionally in the case of raids, some animals are recovered during follow-ups, government interventions and as a result of inter-community dialogues and agreements. In most cases, revenge missions are carried out to replace stolen animals hence creating a vicious cycle and unending missions of revenge and counter attacks.

iii. ***Socio-economic cost:*** Infrastructure, capital stock and household assets are destroyed during conflict, investment declines, and household and national incomes drop. The loss of livelihoods, due in part to the destruction of infrastructure and natural resources, and lack of employment opportunities coincides with a weakened social safety net and a decline in the capacity of the state to provide services, such as health and education. Socio-economic indicators demonstrate that impacts of conflict include declining literacy, a drop in life expectancy and increased infant mortality.

iv. ***Environmental cost:*** Grazing reserves and water points are abandoned in the insecure areas. The shrinkage in grazing and water availability due to insecurity cause abnormal concentration of livestock in safer zones hence leading to ecological degradation and increasing the risk of new conflict. Loss of the traditional livelihoods also leads to communities taking recourse to cutting down the meager vegetation for production of charcoal for sale, in turn escalating and intensifying desertification and ecological degradation.

v. ***Illicit arms proliferation:*** The proliferation of illicit arms has made traditional raiding more severe, frequent, deadly and commercial venture. This has major negative impacts on the socio–economic activities. Most of the guns come from Sudan. Other sources include Uganda (76%), GoK (74%) and Ethiopia (60%). This confirms that indeed illicit arms find their way into Kenya from the neighboring countries (Ruto, *et al,* 2003).

5. Gender Perspective of Land Use Change and Conflicts in Turkana County

Climate related security risks and conflicts disproportionately impact men, women, boys and girls. The capacity of individuals to cope with physical and food insecurity, displacement, loss of livelihood assets, social exclusion and other impacts of conflict is strongly influenced by their gendered roles and responsibilities (Women, 2013). Evidence suggests that the impacts of climate change cause significant socio-economic shifts, including transforming the traditional gender norms that determine economic activity, social relationships and leadership (Nagarajan *et al.,* 2020).

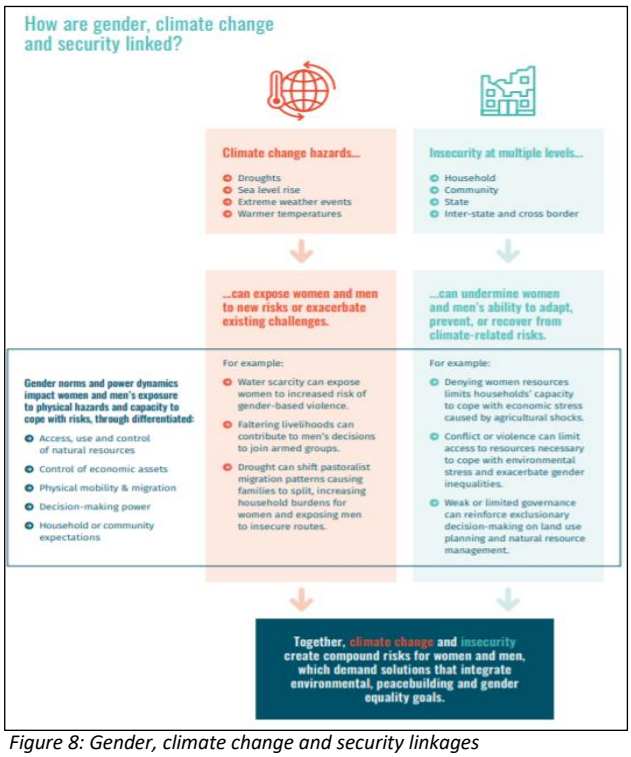

Figure 8: Gender, climate change and security linkages
Source: Nagarajan et al., 2020

The ability to access, control and own productive assets such as labor, land, finance and social capital enables people to create stable and productive lives (Omolo and Mafongoya, 2019). However, the access, use, ownership and the overall governance systems of land and land resources differ among various gender categories, particularly between men and women. While it is evident that women's control of assets is associated with positive development outcomes at the household and individual levels (Omolo and Mafongoya, 2019), they however, have comparatively fewer options for participating in land governance and natural resource management. Women thus are more vulnerable to the effects of climate change than men. This result from various factors including the fact that they constitute the majority of the world's poor and are more dependent for their livelihood on natural resources that are threatened by climate change. Secondly, they face social, economic and political barriers that limit their coping capacity. Further, when coupled with unequal access to resources and to decision-making processes, limited mobility places women in rural areas in a position where they are disproportionately affected by climate change (McKulka, 2009). Women are particularly vulnerable to insecurity and violent conflict. This is because they are responsible for their children making it more difficult for them to flee during periods of raiding.

It is clearly understood that women's vulnerability to climate risks is attributed to the gender differentiation between women and men, which is affected by availability of natural resources, access to assets and legal policy frameworks. Women pastoralists in Turkana County, are vulnerable due to a number of factors: cultural restrictions, poverty, conflicts, unfavourable

national legal frameworks (Omolo *et al.,* 2017). This implies that understanding gender differentiation in adaptation to climate change is very important. Prioritizing gender issues therefore involves focusing on the inequalities between women and men as well as youth. Applying a gender lens contributes to a better understanding of the different experiences of disasters between women and men, and different groups in terms of ethnicity, race and age (Le Masson, 2016). There is a need to mainstream gender climate change policies because women and men have different roles in the community and because climate-induced conflict impacts on women and men differently.

Women's diverse experiences in times of conflict have powerful implications for peacebuilding. Their capacity to recover from conflict and contribute to peace is influenced by their role in the conflict, whether directly engaged in armed groups, displaced, or forced to take on additional responsibilities to sustain their livelihoods and care for dependents. One of the unexplored entry points for strengthening women's roles in peacebuilding relates to the ways in which they use, manage, make decisions on and benefit from natural resources. Coupled with shifting gender norms in conflict-affected settings, women's roles in resource management provide significant opportunities to enhance their participation in decision-making at all levels, and to enable them to engage more productively in economic revitalization activities.

Figure 9: Women participate in a meeting in Lopii community. Source: Trociare, 2019

As the primary providers of water, food and energy at the household and community levels, women in rural settings are often highly dependent on natural resources for their livelihoods, and are therefore particularly susceptible to changes in the availability and quality of these resources during and after conflict. In particular, lack of access to land – which underpins rights to all other natural resources and is a key asset for securing productive inputs – can force them into increasingly vulnerable situations and expose them to higher levels of physical and livelihood risk, with trickle-down impacts on community welfare. The structural discrimination that women face regarding resource rights and access also limits their political participation and economic productivity.

Failure to recognize the challenges and opportunities awarded to women in conflict-affected settings and their roles in natural resource management also risks perpetuating inequalities and deepen grievances linked to natural resource rights, access and control, which have proven to be powerful catalysts for violence. Addressing issues of inequality related to resource access

and ownership, participation in decision-making and benefit sharing early on in the peacebuilding process is thus critical for lasting peace and development.

To strengthen peacebuilding outcomes by enhancing women's engagement and empowerment in conflict affected contexts through sustainable natural resource management, it is important that the county and national governments consider:

i. *promoting women's participation in formal and informal decision-making structures and governance processes related to natural resource management in peacebuilding* through working closely with natural resource management authorities
ii. *adopting proactive measures to protect women from resource-related physical violence and other security risks early in the peacebuilding period:* Women in conflict-affected settings routinely experience physical insecurity, including sexual violence
iii. *removing barriers and create enabling conditions to build women's capacity for productive and sustainable use of natural resources.* Access to credit, technical support and benefits from natural resource exploitation is essential to improving women's economic productivity, which in turn is key to their empowerment

6. Addressing Climate Change-induced Land Conflicts in Turkana County

Addressing resource-based grievances and conflicts is fundamental for creating sustainable peace. Actions should prioritize early and sustained engagement in land issues as part of a broader conflict prevention strategy to reduce the human, economic, social, environmental costs of conflict (Brown & Keating, 2015). Resource based conflicts can, arguably, involve three broad themes: actors (or stakeholders, groups of people, government structures and private entities), resource (land, forests, rights, access, use and ownership) and stakes (economic, political, environmental and sociocultural). As a result, it is contended that conflicts can be addressed with the actor-oriented approach, resource-oriented approach, stake-oriented approach or a combination of the three. However, there are key principles such as, *inter alia*, participatory approaches, equitable representation, capacity building, context of the conflict and increased access and sharing of information, that must always be considered.[6]

6.1 The Role of Climate Change Governance

Climate Change Governance (CCG) provides a model that enables effectively coordinated multi-stakeholder engagement in resource access, utilization and management; with community members regarded as key in enhancing effective and sustainable natural resource management. Stronger climate change governance provides an entry point to address poor resource management, which has been regarded as a key weak point that exacerbates resource

[6] Muigua, K. (2018). Conflict Management Mechanisms for Effective Environmental Governance in Kenya.

degradation thus fuelling inter and intra communal conflicts, especially in the case of shared resource such as water and pastures in pastoral setups.

Climate change governance enables integration of customary institutions and traditional knowledge and resource management approaches into formal plans and actions on climate change. This enables more sustainable and effective access and utilization of shared natural resources thus minimizing violent interactions among communities. It focuses to: strengthen policies and institutional capacities; promote coordination of efforts on resource management and climate actions; enhance resource allocation and investments for addressing impacts of climate change such as rehabilitating degrading lands resources. Also, climate change governance in key in awareness creation and building capacities of communities on resource assessment and sustainable utilization.

Various development agencies in the country have embraced the climate change governance, as an approach for strengthening natural resource management and strengthen climate resilience and minimizing resource-based conflict among communities, particularly across the arid and semi-arid areas in the country. Trócaire, for instance, is implementing a climate change governance projects titled *"Promoting Ecosystem-based Adaptation Approaches to Climate Change and Governance in Turkana County".* This project is aimed at contributing to an accountable, inclusive governance framework for pro-poor, ecosystem based climate change adaptation in Turkana County, through strengthening the capacity of county government institutions to develop pro-poor climate sensitive policies; training community members on climate change to enable them influence policy and; supporting community groups to develop and adopt ecosystem-based climate change adaptation strategies. This project will ultimately result into sustainable access and utilization of natural resources thus minimizing resource-based conflicts.

6.2 Customary Access and Management Regimes

Despite the continuing proliferation of land and natural resource laws, strategies and policy frameworks, communities always have had and, in many cases, continue to have their own customary management regimes. In the past, these management regimes often controlled both intra- and inter-community access to resources. Effective efforts to address conflicts around land and natural resource access and management will require development of systems of legal pluralism, including recognizing the value of customary practices and indigenous peoples' knowledge of resource management. Binding peace agreements through customary processes have proved effective among communities over the years across many communities in Kenya. This approach has been used successfully to build and observe peace between Turkana and Matheninko communities (Uganda). The agreement requires that Turkana from Kenya seek permission in advance from Matheninko leaders on the Ugandan side to bring their animals into

Matheninko land to graze during the dry season. The communities have worked diligently to monitor the agreement, and it has worked effectively.

It is important to note that customary land allocation and management systems developed under conditions of less land and resource scarcity than currently exist in the county. These systems have been flexible and adaptable over time, but current conditions of land scarcity, high monetary value for land, and state intervention are straining or obliterating customary management regimes in many communities.

Addressing resource-based conflicts in Turkana County requires understanding of the status and conflicts situations in the county to inform suitable and effective strategies. This needs to take into account the wide diversity interests and conflicts – inter-community conflict on traditional lands, conflicts between minorities and the state or corporations, as well as minorities trying to access lands in population centres. Clearly, many conflicts overlap and merge into one another, especially when powerful political or corporate interests exploit ethnic differences for economic gain. This reality underlines the need for comprehensive and holistic strategies to bring peace to communities.

6.3 The Role of Government in Addressing Resource-based Conflicts

The role of County Government of Turkana remains fundamentally important in establishing lasting solutions to resource-based conflicts in the county. Recognizing the fact that conflicts are largely driven by the impacts of land management, drought incidence, increasing competition for limited grazing lands and diminishing water resources, the county government has been leading various conflict resolution actions across the county with the Governor actively engaged in promoting peace through community dialogues, cross border consultations and monitoring areas of conflict in pastoral areas. In this regard, the county government has embraced integrated approaches in addressing conflict, with particular attention to rehabilitate degraded of natural resources, enhancing soil and water management, promoting sustainable grazing lands management and food security planning.

The county government has continuously invested in Peace Building and Conflict Management programs that are aimed at promoting peace within the county and among neighboring communities, as well as to enhance peaceful coexistence and sharing of cross border resources. These investments range from: cross border peace initiatives, development of the County Peace Policy and Strategy, internal peace initiatives, resettlement activities, support establishment and renovation of security infrastructure such as Kibish, and Lokitaung security facilities. The County Peace Policy and Strategy will provide the county with a policy and legislative framework upon which county peace building programs will be anchored.

The county government also coordinates and works closely with regional bodies and development partners including in resource mobilization to support peace initiatives. The

government of Turkana County has also held intergovernmental and cross-county peace talks leading to drop in cross border conflicts, for example, at border zones with South Sudan, Karamoja Districts of Uganda and Omo Zone of Ethiopia.

6.4 The Role of Civil Society Organizations (CSOs) in Addressing Resource-based Conflicts

Civil society organizations (CSOs) play important role in addressing resource-based conflicts among communities. The CSOs have access to the parties involved in conflict and the ability to bring parties to dialogue. They also induce local populations to get involved in long-term reconciliation efforts. By working directly with local populations on the ground, civil society is also able to assess the situation effectively thus contributing the government efforts. It is clearly understood that CSO make important contribution considering their efforts in humanitarian relief, development and human rights protection. In the area of conflict management and peace building, most CSOs provide support and implement projects that either directly or indirectly address resource-based conflicts. The CSOs are also critical in supporting capacity development to strengthen capacities of local government offices and community members so as to enable them play more impactful role in preventing and resolving resource-based conflicts.

In Turkana County, various CSOs have over the years invested in development interventions that are largely designed to improve food security and agricultural productivity and diversify livelihood options, especially among the pastoral communities who are prone to resource-based conflicts. Such interventions have been mainly implemented in collaboration with target communities and relevant county or national government departments. It is crucial that these interventions are designed through dialogue with local communities to ensure that they reflect community needs and priorities and that they do not exacerbate conflict or mistrust between communities by fuelling perceptions of unfair advantage to some groups. Some of the recent projects for supporting livelihood development, climate resilience, natural resource management and resource-based conflict management in Turkana County include: Enhancing Community Resilience against Drought (ECORAD) funded by The Japan International Cooperation Agency (JICA); Livelihood Assets & Market Linkages in Turkana by the World Food Program (WFP); The Project for Enhancing Community Resilience Against Drought in Northern Kenya; Food for Assets Project by Childfund Kenya in partnership World Food Programme (WFP) among many others.

6.5 The Role of Private Sector in Addressing Resource-based Conflicts

Private sector including, extractive companies, such as Tullow Oil in Turkana County, equally have a responsibility in addressing resource-based conflicts. While interested in profit making, the extractive companies provide investments, technologies and job opportunities thus alternative sources of livelihood leading to reduced pressure and overdependence on natural resources. Government needs to incentivize companies to invest in sustainable extraction of natural resources towards job creation and skills building; infrastructure investment; social and community benefits; and responsible management of environmental and climate risk.

Attracting responsible private sector investment to the resource sector require effective policy and legal frameworks that provide robust guidance on access, utilization and management on the natural resources, as well as clear roles for each player in the sector, particularly private sector. The private sector also play an important role in the ccollaborative management on natural resources by participating in decision-making on resource access and utilization.

7. Conclusion

Availability and access to land resources remain important socio-economic and livelihood drivers in Turkana County. They are closely linked to community identity, history and culture. Communities, therefore, can readily mobilise around land issues, making land a central object of conflict. Resource-based disputes trigger violence and destruction, particularly in cases of weak local institutions, disregarded traditional role of communities' participation in resolving resource-based conflicts, ill-informed interventions that address the symptoms instead of the root cause of the problem, inadequate policies to address complex land tenure issues in pastoral areas and existing ethnic and political divisions. Resource-based conflicts in Turkana County mainly revolve around grazing and water resources, boundaries, urban expansion, and the fencing of livestock passage routes, conservancies, and refugee camps. Violent conflict over access and utilization of productive land and natural resources in the county have stripped individuals and communities of their lives and dignity, and many of the basic elements of development, thus exacerbating poverty among the community. Climate-related natural resource scarcity or extreme weather events are not the sole cause of resource-based conflicts, rather, acts as a 'threat multiplier' and exacerbates existing stresses to increase the likelihood of violent conflict. The current and expected effects of climate change are based on current and expected increase in extreme weather events such as temperature rise, increased unreliability of rainfall patterns, more frequent and severe droughts and more devastating flood events in the county. Both the community members and county government have critical roles in addressing resource-based conflicts in the county. Peace building action need integrated approaches supported by strong and responsive legal and policy environment.

8. Recommendations

i. Fast-track formulation of the **County Peace Policy and Strategy** and other **legal frameworks** that integrate customary institutions to guide secure land tenure, promote sustainable resource management and conflict resolution among competing land user groups in the county

ii. Conduct county specific **situational analysis of the status, trends and drivers** of climate driven land conflicts to inform landscape and livelihood planning and decision-making built upon evidence

iii. **Strengthen research** and **technical knowledge and institutional capacities** on early warning systems, climate information services, conflict resolution, resource management and climate change governance for reduced climate risks and violent encounters over land resources within the count and at cross-border levels

iv. Strengthen **coordinated** and **cross cross-sectoral approaches** on land and development planning that enhance multi-stakeholders dialogues, lesson-sharing and scalability of best practices on inclusive resilience building, disaster risk management and climate driven resource conflict.

v. Generate and utilize **gender-disaggregated data** to inform gender responsive actions plans, policies and strategies on climate resilience, conflict management and land resource access and utilization.

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