Factors Contributing to The Conflict Escalation in the Mau Forest Complex, Narok County, Kenya

Authors: [1]Paul Ogada Moruka, [2]Gladys Nyachieo and [3]Joseph Okumu
[1,2&3]Tangaza University. **Website:** https://tangaza.ac.ke/
Corresponding author: Paul Ogada Moruka. **Email:** pauloganda.pm@gmail.com

Abstract: The Mau Forest Complex in Kenya has faced significant environmental degradation, political interference and socio-economic tensions leading to persistent resource-based conflicts. This study aimed to identify and analyze the key factors contributing to the escalation of conflicts in the region. The problem is rooted in the competition for increasingly scarce resources such as water, firewood and arable land, exacerbated by illegal human activities, political manipulation, and weak governance. The study is guided by the environmental security theory. A mixed-methods approach was employed, combining a descriptive survey of 134 respondents with semi-structured interviews of 20 key informants, including residents, community leaders, and government officials. Quantitative data were analyzed using descriptive statistics. The study found that resource scarcity (Mean = 4.51, SD = 0.85) and political interests (Mean = 4.50, SD = 0.91) were the most significant contributors to conflict. Thematic analysis of qualitative data underscored the role of political interference, deforestation, and the destruction of water catchments in exacerbating tensions. The study concludes that conflicts in the Mau Forest Complex are driven by resource scarcity, political interference, land-use changes, and environmental degradation. Depletion of vital resources, exacerbated by population growth and weak governance, intensifies competition and tensions. Political manipulation worsens the situation, leading to marginalization and conflict. Poor law enforcement enables illegal activities like land grabbing and logging, further undermining forest management. To address these issues, the study recommends strengthening governance, promoting sustainable resource management, and developing inclusive conflict resolution mechanisms. Community-based programs, reforestation, and collaborative decision-making are essential for long-term peace and sustainability in the region.
Keywords: Conflict Escalation resource scarcity, political interference and environmental degradation

1.1 Background of the study

Conflicts within pastoralist communities have been escalating due to a multitude of interconnected factors, yet many studies tend to oversimplify the complex dynamics involved. According to Fuchs (2023), research on pastoralist conflicts often fails to capture the full scope of contributing factors, leading to ineffective solutions. Kweyu (2022) argue that this oversimplification exacerbates conflict issues, as solutions are often based on narrow perspectives. For instance, the conflict in the Mau Forest in Kenya is typically attributed to ethnic tensions, yet this view overlooks other crucial factors such as

land adjudication processes, political reforms, and resource-use practices (Makhanu, 2015). These simplified explanations have resulted in policies that do not address the root causes of the conflict, leading to repeated cycles of violence and displacement (Kweyu et al., 2019).

Many studies tend to focus on economic disparities and political grievances as primary drivers of conflict, ignoring the more intricate interplay of social, cultural, and psychological factors (Fuchs, 2023; Koech, 2015; Kweyu, 2022; Makhanu, 2015; Mbugua, 2011). This narrow focus can lead to incomplete conclusions about the true causes of conflict escalation. For example, overlooking the psychological effects of historical grievances can result in interventions that do not address deep-seated tensions, thus perpetuating the cycle of violence in conflict-prone regions (Kong'ani, 2016). Moreover, several studies have been criticized for relying on cross-sectional data, which provides only a snapshot in time, rather than capturing the evolving nature of conflicts over time. Mugo (2021) notes that this approach fails to track changes and dynamics essential for understanding how conflicts escalate or de-escalate. The lack of a temporal perspective hampers the ability to identify key triggers and tipping points in conflict situations, thus limiting the development of effective conflict resolution strategies (Musumba, 2015). This deficiency is further compounded by the tendency of many studies to apply universal theoretical frameworks across different regions and cultures, thereby ignoring local contexts. According to (Mwaniki, 2016), conflict escalation is often studied without considering the unique historical, social, and cultural factors that shape conflicts in specific areas, making interventions based on these studies potentially ineffective or even counterproductive.

In the context of Kenya, several studies have identified key factors contributing to conflict escalation, including ethnic intolerance, competition over land and resources, political party zoning, and the proliferation of small arms (Lemarkoko, 2011). These conflicts are often worsened by weak security structures, poverty, underdevelopment, and marginalization (Mbugua, 2011). Ethnicity, especially around election periods and land tenure, is highly politicized and further fuels communal violence (Mkutu, 2020). To address these conflicts, various interventions have been employed, such as economic development programs, conflict early warning systems, and mediation processes. Economic development initiatives aim to alleviate poverty and inequality, but these programs frequently fail due to corruption, mismanagement, and lack of local ownership (Koech, 2015). Conflict early warning systems, while designed to predict and mitigate violence, are limited by inadequate data and forecasting challenges, as well as insufficient political will (Mkutu, 2020). Mediation processes, although useful in resolving disputes, often lack the resources and authority needed to enforce agreements, resulting in recurring conflicts (Fuchs, 2023).

1.2 Statement of the problem

Conflicts within the Mau Forest Complex have intensified due to factors such as environmental degradation, unclear land tenure policies, political interference, and resource scarcity (Mwaniki, 2016; Mbugua, 2011; Kweyu et al., 2019). Unfortunately, many studies oversimplify these conflicts, focusing primarily on ethnic tensions or economic disparities while neglecting the deeper social, cultural, and historical dynamics that fuel the violence (Fuchs, 2023; Koech, 2015; Kweyu, 2022). This oversimplification results in ineffective conflict resolution strategies, perpetuating cycles of violence, displacement, and environmental degradation (Kweyu et al., 2019). If we fail to address this issue, the depletion of forest resources will exacerbate poverty, heighten tensions between communities, and undermine sustainable development efforts (Mwaniki, 2016; Mutai, 2014). Existing

research gaps show a limited understanding of the psychological and temporal aspects of conflict escalation. Many studies rely on crosssectional data, which fails to capture the evolving nature of conflicts over time (Mugo, 2021). Addressing these gaps is crucial for developing effective, context-specific interventions.

1.3 Study Objective
The objective of the study is to Identify the factors contributing to the Conflict escalations in the Mau Forest Complex

1.4 Literature review
Research by Mwaniki (2016) and Mbugua (2011) highlights the significant role of environmental degradation, such as deforestation and land degradation, in contributing to resource-based conflicts. The depletion of forest resources, particularly in the Mau Forest Complex, has led to a scarcity of critical resources like firewood, water, and fertile land, intensifying competition among forest users. As these resources become increasingly scarce, local communities engage in conflicts to secure access. This trend is particularly evident in regions where forest management policies are weak or non-existent, exacerbating resource depletion. Furthermore, the continuous degradation of forest resources not only escalates conflicts but also hinders sustainable development efforts and long-term environmental conservation initiatives (Mwaniki, 2016; Mbugua, 2011). The studies emphasize that addressing environmental degradation is crucial for mitigating conflicts and ensuring the sustainable use of forest resources.

Socio-political dynamics, including land tenure issues and governance challenges, have been identified as significant contributors to resource-based conflicts. Kweyu (2015) and Lemarkoko (2011) argue that unclear land ownership and management policies exacerbate tensions between communities and local authorities. In the Mau Forest Complex, historical injustices related to land allocation have resulted in the displacement of indigenous communities, creating long-standing grievances and disputes over land use rights. This lack of clarity in land tenure policies often leads to conflicts not only among local communities but also between these communities and the government. Governance challenges, such as corruption and inadequate enforcement of land policies, further aggravate the situation. Consequently, unresolved land tenure disputes hinder forest conservation efforts and disrupt community development initiatives (Kweyu, 2015; Lemarkoko, 2011).

Resource scarcity, driven by factors such as over-exploitation and population pressure, is a critical driver of conflict escalation in forested areas. Mutai (2014) and Koech (2015) emphasize that as forest resources like water, firewood, and grazing land become increasingly limited, competition among users intensifies. This scarcity often leads to violent confrontations, particularly in areas where forest resources form the backbone of local livelihoods. In the Mau Forest Complex, population growth in adjacent areas has significantly increased demand for these resources, pushing communities to encroach on forest land for agriculture and settlement. This has not only depleted forest resources but has also heightened tensions among forest-dependent communities. As resources become scarcer, the frequency and intensity of conflicts continue to rise, making it difficult to implement effective conservation strategies (Mutai, 2014; Koech, 2015).

The spatial distribution of resources and the proximity of communities to these resources also play a critical role in the escalation of conflicts. Studies by Kweyu et al. (2019) and Makhanu (2015) indicate that communities living closer to forest resources are more likely to engage in conflicts due to direct competition for these resources. In the Mau Forest Complex, communities situated near valuable forest assets, such as water catchment areas and fertile land, often find themselves in conflict with other groups who also depend on these resources. The uneven spatial distribution of resources creates disparities in access, fueling tensions between neighboring communities. Additionally, as forest resources diminish, communities are forced to migrate closer to remaining resource-rich areas, intensifying conflicts over land use and access to dwindling resources (Kweyu et al., 2019; Makhanu, 2015).

Population pressure is another key factor contributing to the escalation of resource-based conflicts in the Mau Forest Complex. The increasing population in areas surrounding the forest has led to over-exploitation of natural resources, such as timber, grazing land, and water. As more people settle near the forest, they exert greater pressure on the limited resources available, leading to deforestation, soil erosion, and other forms of environmental degradation. Kweyu (2015) notes that the growing population in Narok County has resulted in heightened competition for forest resources, further straining relations among forest-dependent communities. This competition often leads to conflicts, as individuals and groups seek to secure access to vital resources for their livelihoods. The depletion of resources due to population growth not only exacerbates conflicts but also undermines efforts to promote sustainable development and environmental conservation in the region.

Political interference plays a significant role in escalating conflicts over forest resources. Politicians often exploit ethnic tensions and resource-based grievances to further their political agendas, exacerbating divisions within and between communities. Mwaniki (2016) observes that political leaders in Kenya frequently manipulate resource allocation to secure support from their constituents, disregarding the legal and environmental consequences of such actions. This politicization of resource management undermines efforts to resolve conflicts and conserve forest ecosystems, as it often leads to biased distribution of resources and unequal access. In the Mau Forest Complex, political interference has been linked to increased violence and polarization among communities, making it difficult to implement effective conflict resolution and conservation strategies (Mwaniki, 2016**).**

1.5 Research Methodology
This study employed a mixed-methods approach, integrating both qualitative and quantitative research methodologies to comprehensively investigate the factors contributing to conflict escalation in the Mau Forest Complex. The approach combined descriptive survey methods for quantitative data collection and semi-structured interviews for qualitative insights, ensuring a holistic understanding of the multifaceted nature of the conflicts in the region.

Study Design: The research adopted a descriptive survey design for the quantitative aspect to capture respondents' perceptions on various factors contributing to conflict escalation. This design allowed the collection of structured data that could be analyzed statistically to generate insights into the prevalence of key issues such as resource scarcity, political influence, climate change, and governance challenges. In parallel, a phenomenological approach was used for the qualitative component, focusing on the lived

experiences of individuals affected by the conflict. This approach enabled the exploration of deeper insights into how these conflicts affect communities and their perceptions of contributing factors.

Study Area and Population: The study was conducted in the Mau Forest Complex, Narok County, Kenya, a region known for its rich natural resources and persistent conflict over land use, political interference, and resource depletion. The target population included residents, indigenous communities (such as the Ogiek), government officials, and conservation stakeholders. The demographic characteristics of the study participants reflected a broad cross-section of individuals engaged in or affected by the forest conflicts, including those involved in farming, livestock grazing, and forest conservation.

Sampling Procedure and Sample Size: A stratified random sampling technique was used to ensure a representative sample across different demographic groups. The strata were based on gender, age, and community affiliation, which allowed for diversity in the sample and a more accurate reflection of the population's views. From the target population, a sample size of 134 respondents was selected for the quantitative survey, with the sample size determined using the Krejcie and Morgan (1970) formula to ensure statistical relevance. For the qualitative component, 20 semi-structured interviews were conducted with key informants, including community leaders, residents, and government officials. These interviews provided detailed narratives about conflict drivers and allowed the researcher to probe beyond the structured responses of the survey.

Data Collection Methods: A structured questionnaire was designed to assess respondents' perceptions of the factors contributing to conflict escalation. The questionnaire used a Likert scale (Strongly Agree to Strongly Disagree) to gauge the intensity of agreement with statements regarding factors such as resource scarcity, political interference, weak governance, and environmental degradation. Each statement was designed to reflect a specific factor, enabling the quantitative analysis of how widely each factor was perceived as contributing to the conflict. The data collection was facilitated through face-to-face interviews with respondents, ensuring clarity and completeness of responses. The qualitative data were gathered through semi-structured interviews, allowing for open-ended questions and flexibility in responses. Interview guides were used to prompt discussions on specific conflict drivers, but respondents were also encouraged to share personal experiences and broader perspectives on the conflict. Interviews were conducted in local languages with the assistance of trained translators where necessary. In addition to interviews, direct observations were made of land use patterns, deforestation activities, and settlement encroachments, providing context for the survey and interview data.

Data analysis: The quantitative data were analyzed using descriptive statistics such as frequencies, percentages, means, and standard deviations to summarize the respondents' views on the various conflict drivers. A Likert scale analysis provided mean scores to represent the level of agreement with each factor, while the standard deviations indicated the variability in perceptions across the sample. This enabled the identification of the most significant factors contributing to conflict escalation, such as resource scarcity. The qualitative data were analyzed using thematic analysis. Transcripts of the interviews were reviewed, and recurring themes were identified, including resource competition, political manipulation, governance failures, and environmental degradation. These themes were coded and organized into broader categories to identify patterns and relationships between the conflict drivers. Direct quotes from respondents were used to support the findings and provide deeper insights into the lived experiences of those affected by the conflicts

1.6 Findings and discussions
Demographic Characteristics of the Respondents
The demographic findings from the study provide valuable insights into the characteristics of the respondents, which can influence their perceptions and experiences of the conflict in the Mau Forest Complex.
Table 1: Demographic Characteristics of the Respondents

Category	Sub-Category	Frequency	Percentage (%)
	Male	80	59.70
Gender	Female	54	40.30
	Total	134	100
	18 years and below	12	8.96
	19 - 29 years	67	50.00
	30 - 39 years	24	17.91
Age Bracket	40 - 49 years	12	8.96
	50 - 59 years	13	9.70
	60 years and above	6	4.48
	Total	134	100

Source: *Authors, 2024*

The data indicates that 59.7% of the respondents were male, while 40.3% were female. This shows a higher representation of men in the study. The gender imbalance may reflect the nature of participation in forest-related activities or conflict resolution processes, where men might be more involved in decision-making or direct competition over resources like land and water. However, it's important to acknowledge that women, despite being underrepresented, may experience the impacts of conflict differently, especially in areas like resource scarcity and household responsibilities. Future studies could aim for more balanced gender representation to ensure a comprehensive understanding of how conflicts affect both genders. The age distribution shows that most respondents (50%) were between 19 and 29 years old, highlighting a predominantly youthful population. This is significant because younger people may have different perspectives on conflict, land use, and environmental issues compared to older generations. Youth are often more directly involved in activities like farming or cattle grazing, which can increase their engagement in conflicts over limited resources. The other notable age groups are 30-39 years (17.91%) and 50-59 years (9.7%). The least represented group is those 60 years and above (4.48%). This youthful demographic suggests that interventions aimed at conflict resolution should consider the unique challenges and aspirations of younger populations, as they are likely the most impacted by the resource competition and political manipulation within the region.

Factors Contributing to Conflict Escalation in Mau Forest Complex
The objective of the study was to establish the factors contributing to the conflict escalations in Mau Forest Complex Narok County. To achieve this, respondents were asked to rate the items if they agree they contributed to conflict escalation. Table 2 represents findings.

Table 2: Factors Contributing to Conflict Escalation in Mau Forest Complex

Variable Statements	SA	A	N	D	SD	Total	Mean	SD
Scarcity of natural resources	90	30	8	4	2	134	4.51	0.85
Political interest	96	22	9	2	4	134	4.50	0.91
Changes in weather	80	16	15	8	2	134	3.93	1.06
Weak governance and law enforcement	96	18	12	7	3	134	4.51	1.01
Human activities (disturbance) on land e.g., farming	86	18	10	11	9	134	4.20	1.27
Destroying water towers (water catchments)	89	27	13	10	4	134	4.60	1.15
Conversion of forestland into settlements	86	40	9	9	4	134	4.77	1.17
Mismanagement of industrial forest plantations	80	40	8	3	3	134	4.43	0.88
Illegal forest resource extraction	89	29	10	4	2	134	4.49	0.87
Grazing of cattle-protected wildlife areas	80	33	13	4	4	134	4.35	0.98

Source: *Authors (2024)*

Result presented in table 2 highlights various factors contributing to conflict escalation in the Mau Forest Complex, with each factor evaluated based on respondents' agreement levels. The mean and standard deviation values provide insights into the intensity and variability of perceptions regarding these factors. The study found that scarcity of natural resources (Mean = 4.51, SD = 0.85) is a contributor to conflict. The high mean indicates strong agreement among respondents that resource scarcity exacerbates tensions. This finding aligns with the literature, which suggests that competition over limited resources often leads to conflicts, particularly in regions where communities depend heavily on natural resources for their livelihoods (Homer-Dixon, 1999). The root cause of this issue is the increasing demand for resources due to population growth and environmental degradation, which reduces the availability of essential resources like water and arable land. This scarcity can lead to disputes over resource allocation, further escalating conflicts.

In addition, political interest (Mean = 4.50, SD = 0.91) also plays a crucial role in conflict escalation. Political manipulation and interests often exacerbate conflicts, as leaders may exploit ethnic or regional divisions to gain support or control resources (Kahl, 2006). The variability in responses (SD = 0.91) suggests differing perceptions of political influence, possibly reflecting the complex and multifaceted nature of political dynamics in the region. Political interests can inflame existing tensions by promoting policies that favor certain groups over others, leading to feelings of marginalization and resentment. The study also identified changes in weather (Mean = 3.93, SD = 1.06) are perceived as a moderate contributor to conflict. Climate change impacts, such as altered rainfall patterns and increased frequency of extreme weather events, can exacerbate resource scarcity and displacement, leading to conflicts (Barnett & Adger, 2007). The relatively higher standard deviation indicates diverse opinions on the extent of weather changes' impact, which may be due to varying experiences and awareness levels among respondents. Further, weak governance and law enforcement (Mean = 4.51, SD = 1.01) is another significant factor. Ineffective governance structures and poor law enforcement can create power vacuums and enable illegal activities, such as land grabbing and resource exploitation, which fuel conflicts (Ostrom, 1990). The high mean reflects a consensus on the importance of strong governance in

mitigating conflicts, while the standard deviation suggests some variability in perceptions, possibly due to differences in local governance experiences.

Moreover, human activities (disturbance) on land, e.g., farming (Mean = 4.20, SD = 1.27) contribute to conflict by disrupting ecosystems and competing with conservation efforts. The high standard deviation indicates significant variability in responses, which may reflect differing levels of impact experienced by various communities. Farming and other land-use changes can lead to habitat destruction and resource depletion, increasing competition and conflict among land users (Geist & Lambin, 2002). In addition, destroying water towers (water catchments) (Mean = 4.60, SD = 1.15) is perceived as a major conflict driver. Water towers are crucial for maintaining water supply and ecological balance, and their destruction can lead to severe water shortages and environmental degradation (UNEP, 2012). The high mean and standard deviation suggest strong agreement on the issue's importance but also indicate diverse experiences and perceptions of its impact.

Conversion of forestland into settlements (Mean = 4.77, SD = 1.17) is the highest-rated factor, highlighting the critical role of land use changes in conflict escalation. The conversion of forestland for settlements disrupts ecosystems, displaces wildlife, and reduces available resources, leading to conflicts between settlers and conservationists (FAO, 2016). The high mean reflects strong agreement on this issue, while the standard deviation indicates variability in the perceived impact. Mismanagement of industrial forest plantations (Mean = 4.43, SD = 0.88) contributes to conflict by reducing forest productivity and sustainability. Poor management practices can lead to resource depletion and environmental degradation, exacerbating tensions among stakeholders (Putz et al., 2008). The relatively low standard deviation suggests a consensus on the negative impact of mismanagement. Illegal forest resource extraction (Mean = 4.49, SD = 0.87) is another significant factor. Illegal activities, such as logging and poaching, undermine conservation efforts and create conflicts over resource control (Nellemann et al., 2014). The high mean indicates strong agreement on the issue, while the standard deviation suggests some variability in perceptions.

Grazing cattle in protected wildlife areas (Mean = 4.35, SD = 0.98) contributes to conflict by competing with wildlife for resources and disrupting conservation efforts. This practice can lead to overgrazing, habitat destruction, and increased human-wildlife conflicts (Ogutu et al., 2014). The high mean reflect strong agreement on the issue, while the standard deviation indicates variability in the perceived impact. The findings highlight the multifaceted nature of conflict escalation in the Mau Forest Complex, with resource scarcity, political interests, and land use changes being the most significant contributors. These factors are interrelated and often exacerbate each other, leading to complex conflict dynamics. Addressing these issues requires integrated approaches that consider environmental, political, and socio-economic dimensions to promote sustainable conflict resolution and forest management.

In interviews, respondents consistently pointed to resource scarcity as a key factor in escalating conflicts within the Mau Forest Complex. Many expressed frustrations over the depletion of essential resources such as water, firewood, and grazing land due to deforestation and illegal human activities. Encroachment for farming and logging has significantly reduced forest cover, which in turn has diminished the availability of these vital resources. This resource depletion, as respondents noted, has intensified competition among local communities, often resulting in disputes. The scarcity of arable land has also strained relationships, particularly in areas where agriculture is the primary livelihood.

Historical issues, such as mismanagement of land allocations during the KANU era, have further compounded these conflicts, with communities now fighting over limited resources.

> *"As more people move into the forest to farm and settle, we are left with less land and fewer resources. This has caused tensions between families and tribes who rely on the same resources to survive". (Respondent A).*

The scarcity of natural resources as a driver of conflict has been widely documented in environmental research. Bisht et al. (2020) underscore the role of deforestation and over-exploitation in exacerbating resource competition, which leads to conflicts in forested areas. Similarly, Kumar, Kumar, and Saikia (2022) highlight that deforestation not only disrupts ecological balance but also triggers social instability, particularly when resources like water and arable land become scarce. These findings resonate with Chemutai Koech's (2023) study, which identified resource scarcity as a major factor driving tensions among the indigenous Ogiek community in the Mau Forest**.**

Respondents emphasized the profound impact of political interference on conflict escalation in the Mau Forest Complex. Several participants expressed frustration over how political leaders have historically used forestland allocations to secure votes and maintain influence. Politicians often promise land in exchange for political support, leading to illegal settlements and environmental degradation. This manipulation has sparked land disputes between indigenous communities and new settlers, creating a volatile environment where tensions escalate over land ownership and resource access. Political favoritism has allowed for unchecked destruction of the forest, further exacerbating conflicts between forest-dependent communities.

> *"Politicians always promise us land in exchange for votes, but this has only led to conflicts. The forest is being destroyed, and we are left to fight over what is left".(Respondent B)*

Political interference in land management has been identified as a critical factor in many resource-based conflicts. Chemutai Koech (2023) discusses how political promises and irregular land allocations have contributed to ongoing tensions in the Mau Forest. Irland (2008) further asserts that governance failures and political corruption are key barriers to effective forest management, as they create an environment where illegal activities are allowed to flourish. This finding is also supported by Blumm, Brown, and Stewart-Fusek (2022), who argue that political exploitation of natural resources often destabilizes communities and undermines conservation efforts**.**

Several respondents highlighted the role of changing weather patterns in contributing to resource scarcity and, consequently, conflict. Unpredictable rainfall and prolonged droughts have worsened the availability of water and pasture, especially for pastoralist communities that depend on these resources for livestock. As weather patterns become more erratic, communities are forced to migrate in search of fertile land and water, leading to conflicts with indigenous groups and others who rely on the same resources. Respondents also expressed concern that the lack of resilient infrastructure has left them vulnerable to climate-related shocks, further intensifying competition over dwindling resources.

> *"The weather has changed so much. We don't get enough rain, and the rivers are drying up. This has caused a lot of conflict between us and the neighboring communities". (Respondent C).*

Bell and Masys (2020) emphasize that climate change acts as a conflict multiplier, particularly in regions where communities rely heavily on natural resources. Prolonged droughts and erratic weather patterns, as seen in the Mau Forest, lead to increased competition for limited resources such as water and pasture, exacerbating existing tensions. Jebiwott et al. (2021) echo these findings, noting that climate variability

has significantly impacted resource availability in the Mau Forest, which in turn has fueled conflict between forest-dependent communities.

Many respondents voiced their concerns over weak governance and law enforcement, which they saw as major contributors to ongoing conflicts in the Mau Forest Complex. They expressed frustration with the government's inability to curb illegal activities such as logging, settlement encroachment, and land grabbing. Several respondents cited corruption and political interference as key reasons behind the government's failure to protect the forest and enforce environmental regulations. The lack of clear land tenure policies has also created uncertainty, leading to disputes between communities and between communities and government authorities.

> *"The government is not doing enough to stop illegal activities in the forest. They allow people to come and settle, and then we are the ones who suffer the consequences." (Respondent D).*

Irland (2008) emphasizes that governance failures and corruption are major challenges in forest management, particularly in regions vulnerable to resource-based conflicts. In the case of the Mau Forest, Klopp and Sang (2011) note that the government's inability to enforce land regulations has led to widespread illegal settlements and environmental degradation, further exacerbating tensions between communities. Blumm et al. (2022) argues that strengthening governance and law enforcement is critical to resolving conflicts and ensuring the sustainable management of forest resources.

Respondents frequently identified illegal human activities, such as farming and logging, as key factors contributing to the degradation of the Mau Forest and the subsequent escalation of conflicts. The encroachment of settlers into forested areas for agricultural purposes has led to deforestation and competition over remaining land and resources. As the forest cover continues to diminish, tensions rise between settlers and indigenous communities, as well as between settlers and conservation authorities. These activities are often driven by economic necessity, but they have long-term consequences for the sustainability of the forest and the well-being of surrounding communities.

> *"Farming in the forest has caused a lot of problems. People come in, cut down trees, and clear land to grow crops. This has led to conflicts, as we are running out of land and resources." (Respondent E).*

Human activities such as illegal farming and logging have been widely recognized as drivers of environmental degradation and conflict in forest regions. Jebiwott et al. (2021) document the extensive deforestation in the Mau Forest caused by these activities, noting the direct link between environmental degradation and resource conflicts. Bisht et al. (2020) further assert that human encroachment into forested areas exacerbates resource scarcity, leading to increased competition and social tensions.

Several respondents expressed concern over the destruction of water towers in the Mau Forest, which they viewed as a significant driver of conflict. Deforestation and human activities in water catchment areas have disrupted water flow, leading to shortages and increased competition for water resources. These shortages have particularly affected agricultural productivity, with many farmers reporting reduced access to irrigation water, thereby intensifying conflicts between communities that rely on the same water sources.

> *"The rivers are drying up because of the destruction of the water towers. We now must fight for water, and this has caused so many problems between us and the neighboring communities. (Respondent F).*

Langat et al. (2021) emphasizes the critical role of water towers in maintaining the ecological balance of the Mau Forest and supporting surrounding communities. The destruction of these catchment areas has disrupted water availability, leading to increased competition and conflict, particularly among agricultural communities. Bisht et al. (2020) similarly argue that the degradation of vital ecological services, such as water catchments, has far-reaching consequences for both environmental sustainability and social stability, as communities vie for control of these resources.

1.7 Conclusion

Based on the findings, it is evident that multiple interrelated factors contribute to the escalation of conflicts in the Mau Forest Complex. Resource scarcity, political interests, land use changes, and environmental degradation emerged as the most significant drivers of conflict. The study found strong agreement among respondents that the depletion of essential resources such as water, arable land, and forest products, exacerbated by population growth and unsustainable land-use practices, significantly intensifies competition and tensions. Political interference, particularly in the form of land promises and resource manipulation by local leaders, further inflames these tensions, leading to feelings of marginalization and resentment among different community groups. Additionally, weak governance and poor law enforcement exacerbate the problem by creating power vacuums that enable illegal activities such as land grabbing, logging, and settlement encroachment, all of which undermine sustainable forest management. Human activities, particularly farming and logging, continue to disrupt ecosystems, while climate change and erratic weather patterns further strain already scarce resources. The destruction of water towers has particularly severe consequences, reducing access to water for irrigation and domestic use, thereby intensifying conflicts. These findings highlight the complex dynamics that drive conflict in forested regions like the Mau Forest. Addressing these issues requires a comprehensive and integrated approach that considers environmental, political, and socio-economic dimensions. Effective governance reforms, sustainable resource management, and inclusive conflict resolution mechanisms involving all stakeholders' local communities, government agencies, and non-governmental organizations are essential to promoting long-term peace and environmental sustainability in the region. The study also underscores the importance of public awareness and education on the need for forest conservation and sustainable resource use as key strategies to mitigate conflict and preserve the ecological and social balance of the Mau Forest Complex.

1.8 Recommendations

To address the issues of conflict escalation in the Mau Forest Complex, several key recommendations are proposed. First, there is a need to strengthen governance and law enforcement. The implementation of clear land tenure policies and stricter enforcement of environmental regulations are critical steps toward curbing illegal activities such as land grabbing, illegal logging, and unauthorized settlements. Strengthening governmental oversight and holding political actors accountable for their involvement in resource manipulation can mitigate political interference and promote a more equitable approach to land and resource allocation. Improved governance will help create a more structured and transparent system that prioritizes sustainable development and forest conservation. Second, promoting sustainable resource management is essential in tackling the issue of resource scarcity. The introduction of community-based natural resource management programs can empower local populations to take ownership of forest resources, encouraging conservation and responsible resource use. Initiatives such as reforestation, sustainable farming practices, and conservation education will reduce environmental degradation, ensuring that vital resources like water, arable land, and forest products are available for future

generations. These practices can alleviate the competition over scarce resources that often leads to conflict. Lastly, the development of inclusive conflict resolution mechanisms is crucial for long-term peace and sustainability in the Mau Forest Complex. It is important to establish platforms that bring together all stakeholder's local communities, indigenous groups, government authorities, and non-governmental organizations so they can engage in meaningful dialogue and collaborative decision-making. Integrating traditional conflict resolution practices with modern approaches can address cultural differences and root causes of disputes. Such mechanisms can help resolve conflicts more effectively, fostering cooperation and harmony among forest-dependent communities while supporting sustainable forest management and development efforts.

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