

Gender, Resource Governance and Sustainable Development in Narok County, Kenya

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ABSTRACT

Narok County, located in Kenya's Rift Valley, has significant natural resources, including land, wildlife, forests, and water systems that support livelihoods and economic development. However, access to and control over these resources are shaped by gendered social structures that influence development outcomes. This study examines gender, resource governance, and sustainable development in Narok County through a desk review of county policy documents and scholarly literature. The study draws data from the Narok County Integrated Development Plan (CIDP) 2023–2027, Annual Development Plans (ADPs), and peer-reviewed studies, which were analyzed thematically to identify patterns and gaps in gendered resource governance. Drawing on the Feminist Political Ecology (FPE) framework, the study looks at resource distribution, gendered access and control, governance, and local strategies for sustainable resource management. Findings indicate that despite Narok County's rich resource base, including a population of approximately 1.28–1.31 million people and a land area of 17,950.3 km², resource benefits remain unevenly distributed. Women play a key role in agriculture and household resource management but face structural barriers in land ownership and decision-making. Climate variability, including declining rainfall trends and increasing temperatures, further worsens vulnerability, particularly among marginalized groups. Although governance tools such as the CIDP and ADP promote inclusivity, gaps remain in translating participation into meaningful influence. The study concludes that achieving sustainable development goals SDG 1, SDG 5, SDG 13, and SDG 15 in Narok County requires strengthening gender-transformative approaches, equitable resource access, and inclusive governance to strengthen resilience, reduce poverty, and promote sustainable development.

Keywords: Gender, Resource governance, Sustainable development, Climate variability, Feminist Political Ecology, Narok County.

INTRODUCTION AND BACKGROUND OF THE STUDY

Natural resources such as land, forests, water, biodiversity, and wildlife are fundamental to economic growth, food security, poverty reduction, and sustainable development worldwide. According to the United Nations Environment Programme (UNEP, 2024), more than half of the world's gross domestic product (GDP) depends directly or indirectly on natural resources and ecosystem services. Approximately 3.2 billion people globally depend on natural resources for their livelihoods, particularly through agriculture, forestry, fisheries, and pastoralism (FAO, 2023). However, increasing population growth, climate change, environmental degradation, and unsustainable resource exploitation continue to threaten the sustainability of these resources. These challenges are further compounded by persistent gender inequalities, which limit women's access to productive resources, decision-making, and economic opportunities despite their substantial contributions to natural resource management (United Nations, 2023).

Globally, gender equality has become a central pillar of sustainable development, particularly following the adoption of the 2030 Agenda for Sustainable Development. Sustainable Development Goal 5 (Gender Equality) recognizes women's equal participation in decision-making and access to productive resources as prerequisites for achieving other development goals, including SDG 1 (No Poverty), SDG 2 (Zero Hunger), SDG 13 (Climate Action), and SDG 15 (Life on Land) (United Nations, 2015). The Food and Agriculture

Organization (FAO, 2023) estimates that women constitute approximately 36% of the global agricultural workforce and nearly 48% in low-income countries, yet they continue to own less land, have limited access to agricultural inputs, financial services, and extension support, and remain underrepresented in resource governance institutions. Closing these gender gaps has the potential to increase agricultural productivity, improve food security, and strengthen climate resilience (FAO, 2023).

Across Sub-Saharan Africa, natural resources remain the primary source of livelihoods, employment, and economic growth, with agriculture accounting for approximately 23% of regional GDP and employing nearly 60% of the labor force (African Development Bank [AfDB], 2024). However, the region experiences some of the world's highest levels of climate vulnerability, characterized by prolonged droughts, land degradation, biodiversity loss, and increasing competition over land and water resources (IPCC, 2022). These environmental pressures disproportionately affect women because they are primarily responsible for food production, water collection, fuelwood gathering, and household care. Despite their critical role, women generally have weaker land tenure rights, limited representation in governance institutions, and reduced access to financial and technological resources (UN Women, 2023; Huyer et al., 2021). Consequently, recent studies argue that sustainable resource governance in Africa requires moving beyond gender-sensitive interventions towards gender-transformative approaches that address structural inequalities and power relations (Agarwal, 2018; Huyer et al., 2021).

In Kenya, natural resources contribute significantly to national development through agriculture, tourism, forestry, mining, and fisheries. Agriculture contributes approximately 22.4% directly to Kenya's Gross Domestic Product (GDP) and an additional 27% indirectly through manufacturing, distribution, and service sectors, while employing over 40% of the total population and more than 70% of rural households (KNBS, 2024; Ministry of Agriculture and Livestock Development, 2023). Nevertheless, Kenya continues to face increasing climate-related challenges, including recurrent droughts, declining availability of water, land degradation, and conflicts over natural resources, particularly within arid and semi-arid lands (ASAL) (Government of Kenya, 2023; IPCC, 2022). Although the Constitution of Kenya (2010), the National Gender and Equality Commission (NGEC), and the National Climate Change Action Plan promote gender equality and inclusive governance, studies indicate that women continue to experience disparities in land ownership, access to agricultural credit, extension services, and participation in natural resource governance (FAO, 2023; KNBS, 2024; UN Women, 2023). Recent evidence further suggests that improving women's agency in resource governance contributes to enhanced agricultural productivity, climate resilience, and poverty reduction (Doss et al., 2018; World Bank, 2024).

Against this national backdrop, Narok County represents one of Kenya's most resource-endowed counties. Located in Kenya's Rift Valley region, it is one of the 47 counties established under the Constitution of Kenya 2010 and serves as a strategic gateway to the Mara–Serengeti ecosystem. The county covers approximately 17,950.3 km², representing about 3.1% of Kenya's total land area, and had a projected population of approximately 1.28–1.31 million people in 2023, indicating steady demographic growth with increasing pressure on natural resources (Narok County Government, 2023a; Narok County Government, 2023b). The county is characterized by diverse ecological zones ranging from highland agricultural areas to semi-arid rangelands, with nearly two-thirds of the county classified as semi-arid, making livelihoods highly dependent on climate-sensitive natural resources (Narok County Government, 2023a).

Additionally, the economy of Narok County is predominantly based on pastoralism, crop farming, tourism, and trade, with natural resources forming the backbone of local livelihoods. Agriculture plays a central role, with crops such as wheat, maize, and barley cultivated in high-potential areas, while livestock production dominates the rangelands (Narok County Government, 2023a). In addition, the county hosts the globally renowned Maasai Mara National Reserve (approximately 1,510 km²), which supports over 95 mammal species and more than 400 bird species, attracting about 158,000 tourists annually and contributing significantly to both local and national economies (Narok County Government, 2023a). The Mau Forest Complex and major river systems such as the Mara River further enhance ecological sustainability by supporting water catchment, biodiversity conservation, and agricultural productivity (GoK, 2018).

Despite this resource wealth, Narok County faces significant development challenges, including climate

change, land fragmentation, resource-based conflicts, and socio-economic inequalities, which limit equitable distribution of benefits (Narok County Government, 2023b; KNBS, 2019). Climate variability is particularly critical, with evidence showing declining rainfall trends since the mid-1980s, rising temperatures, and increasing drought frequency, all of which threaten agricultural productivity and pastoral livelihoods (Narok County Government, 2023a; IPCC, 2022). These environmental stresses disproportionately affect vulnerable populations, particularly women, who are highly dependent on natural resources for household provisions and income generation (UN Women, 2023). In addition, access to education remains uneven across the county, particularly among girls in pastoral communities, limiting human capital development and reinforcing gender inequalities in resource access and decision-making (KNBS, 2019; World Bank, 2022).

Gender dynamics are therefore central to understanding resource governance and development outcomes in Narok County. Women play a significant role in agricultural production, livestock care, water collection, and household food security; however, their access to and control over key productive resources, especially land and livestock, remain constrained by customary land tenure systems and patriarchal norms that favor male ownership and decision-making (FAO, 2023; Agarwal, 2018). This imbalance limits women's participation in economic activities and resource governance, ultimately reducing the efficiency and sustainability of development outcomes (Doss, 2018).

The introduction of devolved governance in Kenya has created new opportunities for inclusive development through participatory planning frameworks such as the County Integrated Development Plan (CIDP) and Annual Development Plans (ADPs). In Narok County, these processes involve stakeholders across all 30 wards, promoting inclusivity and local participation in decision-making (Narok County Government, 2023a). However, while women's participation in these processes has improved, their influence over resource allocation and governance decisions remains limited, reflecting the persistent gap between participation and actual empowerment (Cornwall, 2016; Huyer et al., 2021).

Given these dynamics, this study critically examines the intersection of gender, resource governance, and sustainable development in Narok County. It focuses on resource distribution, gender-equitable access and control, governance structures, and sustainability strategies. By applying a gender lens, the study argues that achieving sustainable development requires not only effective resource management but also transforming gender relations and power structures that shape access, control, and decision-making in both pastoral and agricultural systems.

LITERATURE REVIEW

This literature review examines existing studies on gender, resource governance, and sustainable development, with a focus on pastoral and agro-pastoral contexts relevant to Narok County. The review examines empirical studies across global, regional, national, and local contexts. The review synthesizes existing knowledge on gendered access to productive resources, resource governance, climate change, education, and sustainable development. The section concludes by identifying the research gap that justifies the present study.

A dominant finding in the literature is that women's contribution to agriculture and household survival remains disproportionately high relative to their ownership and control of productive resources. Across Kenya and sub-Saharan Africa, women are central to food production, water collection, small livestock care, and household provisioning, yet they continue to face structural barriers in accessing land, finance, extension services, and markets (FAO, 2023; UN Women, 2023; Doss, 2018). Studies consistently show that unequal access to productive resources reduces agricultural productivity, household welfare, and opportunities for sustainable development. Similarly, studies on agro-pastoral diversification in Kenya show that unequal access to productive resources continues to shape livelihood outcomes, particularly where livestock and land remain markers of wealth and authority (Jayne et al, 2014). Collectively, these studies suggest that resource inequality in Narok is not merely a matter of poverty, but of gendered political economy.

Beyond access, recent studies increasingly emphasize that the central issue is not only women's access to resources but also their control over them. In pastoral and agro-pastoral settings, land, livestock, and water are not simply economic assets; they are embedded in cultural authority, inheritance systems, and identity

(Agarwal, 2018). Research from Kenya and East Africa shows that where land rights are insecure or mediated through male relatives, women's ability to invest in productivity, climate adaptation, or enterprise development is substantially reduced (Agarwal, 2018; Lind & Flintan, 2019). In addition, studies on pastoralist-led strategies to secure land and resource access in Kenya further show that changing tenure systems, conservation pressures, and commercialization often intensify exclusion for women unless governance reforms deliberately address gendered rights and voice (Lind & Flintan, 2019). Thus, the literature suggests that sustainable development in Narok cannot be meaningfully discussed without addressing the politics of land ownership, access, and decision-making.

Another strong component is women's substantial but often undervalued participation in agricultural and local economic systems. In Narok County, agriculture and livestock are among the county's major economic activities, alongside tourism and trade (Narok County Government, 2023a). Women contribute labor to food production, livestock management, household care, informal trade, and resource collection, yet their work is frequently classified as supportive rather than productive. In Kenya, studies indicate that when women participate more fully in agricultural production and value chains, household welfare improves, but their returns remain constrained by weak control over income, low asset ownership, and limited market bargaining power (FAO, 2023; Doss et al., 2018). Commercialization of livestock farming in Narok also shows that pastoral livelihoods are increasingly linked to enterprise and market systems, but these transitions do not automatically produce equitable outcomes unless gender dimensions are addressed (Catley, Lind, & Scoones, 2013). This literature therefore challenges simplistic assumptions that women's economic participation alone is sufficient, instead, it shows that without corresponding changes in control, agency, and institutional support, women may remain highly involved yet poorly rewarded.

In addition, a growing body of literature demonstrates that environmental stress interacts with gender inequality to deepen vulnerability. Studies across Africa show that climate variability, prolonged droughts, declining rainfall, and land degradation increase pressure on natural resources while disproportionately affecting women because of their dependence on agriculture, water, fuelwood, and household livelihoods (IPCC, 2022; UN Women, 2023). Recent studies on climate vulnerability in rural Kenya argue that poverty and gender inequality combine to heighten ecosystem, livelihood, and health risks in climate-sensitive counties (Huyer et al., 2021). Related work on drought severity in Narok's arid and semi-arid landscapes also confirms that worsening climate conditions threaten agriculture, livestock husbandry, and tourism simultaneously, thereby increasing competition over shrinking resources (Opiyo et al, 2015). More broadly, policy reviews of climate adaptation in Kenya show that counties with strong reliance on pastoralism and rain-fed agriculture face particularly acute challenges unless climate planning is linked to social inclusion and gender responsiveness (Conrad, 2024). These findings reinforce the importance of integrating gender equality into climate adaptation and natural resource management policies.

The literature also points to a persistent gap between women's participation and women's influence in governance. Devolution in Kenya has expanded formal opportunities for public participation. However, empirical studies consistently caution that attendance at forums does not necessarily translate into agenda-setting power or control over outcomes (Cornwall, 2016; Huyer et al., 2021). In pastoral and agricultural systems, governance over land, water, conservancies, and public budgets is often shaped by pre-existing authority structures that continue to advantage men. Recent work on human rights-based community development in Narok and Nakuru similarly notes that sustainable development outcomes are strongly influenced by who actually accesses opportunities and exercises voice within local institutions, not simply by the existence of programs (World Bank, 2020). Likewise, studies on climate-smart and socially inclusive agriculture argue that meaningful governance must measure agency, decision-making, and benefit distribution, rather than participation alone (Huyer et al., 2021).

Recent studies further show that gender inequalities in resource governance affect broader development outcomes such as food security, nutrition, and resilience. (Agarwal, 2018). Evidence suggests that development interventions are more effective when they recognize gender differences in access to productive resources and livelihood opportunities (Agarwal, 2018; FAO, 2023). Studies on food and nutrition security in Kenya demonstrate that county-level development outcomes improve when data and interventions are gender-

disaggregated and aligned to actual livelihood realities (FAO, 2023; KFSG, 2023). This confirms a broader point in development literature, that is, gender equality is not a separate social concern but a foundational condition for achieving sustainable development goals relating to health, food security, and poverty (Agarwal, 2018; FAO, 2023).

Similarly, education is a critical determinant of sustainable resource utilization and plays a key role in shaping access to resources and participation in governance. Studies show that women who have higher levels of education are more likely to adopt climate-resilient agricultural practices, access financial services, and participate in decision-making processes (FAO, 2023; Huyer et al., 2021). However, in pastoral communities, socio-cultural practices often limit girls' access to education, thereby reinforcing gender inequalities in resource ownership and utilization (KNBS, 2019). This suggests that education is not only a social service but also a key determinant of sustainable resource management.

Localized Narok evidence and the emerging research gap

Although recent studies increasingly discuss gender, agriculture, climate, and sustainability in Kenya, Narok County-specific work remains relatively fragmented. Some studies address agricultural productivity, human activities, and environmental degradation in Narok North while others focus on livestock commercialization, drought, or women's empowerment in specific farming systems (Kirui, 2016; Catley, Lind, & Scoones, 2013; Doss et al., 2018; Opiyo et al., 2015). County documents provide rich descriptive evidence on population growth, ecological conditions, climate stress, major livelihoods, and participatory development planning (Narok County Government, 2023a; Narok County Government, 2023b). However, integrated analysis that brings together gender, resource governance, and sustainable development in one framework remains limited. Most existing studies examine either productivity, climate risk, or women's participation in isolation. Fewer studies interrogate how gender shapes access, control, distribution, and governance of Narok's key resources across agriculture, pastoralism, tourism, water, and environmental conservation. This is the key empirical gap that the present study addresses.

In summary, the literature shows that Narok County's development challenges cannot be adequately explained by resource scarcity alone. Rather, they are shaped by how resources are governed, who controls them, and whose labor and knowledge are recognized in development processes. Existing studies clearly support the argument that women are central to livelihoods and sustainability, yet remain disadvantaged in ownership, authority, and benefit capture. At the same time, recent studies point to the need for more localized and integrated analyses of gendered resource governance in pastoral and agro-pastoral counties. This study addresses that gap by examining Narok County through the combined lenses of gender, resource governance, and sustainable development, using the Feminist Political Ecology perspective. This will therefore provide a more holistic understanding of how gendered power relations influence resource utilization, governance, and sustainable development, thereby contributing evidence to inform more inclusive county policies and development interventions.

THEORETICAL FRAMEWORK

This study is guided by the Feminist Political Ecology (FPE) framework, developed by Rocheleau, Thomas-Slayter, and Wangari (1996), which examines the relationships between gender, natural resource governance, and environmental change. The framework argues that access to, control over, and management of natural resources are shaped by gendered power relations, socio-cultural norms, customary institutions, and political-economic structures rather than by ecological factors alone. It recognizes that women and men experience environmental changes differently because of unequal rights, responsibilities, and opportunities in relation to productive resources such as land, water, forests, livestock, and biodiversity. Contemporary applications of FPE further emphasize that sustainable development requires not only increasing women's participation in resource management but also addressing the structural inequalities that influence ownership, decision-making, and benefit sharing (Agarwal, 2018; Huyer et al., 2021).

The Feminist Political Ecology framework also provides an appropriate analytical lens for this desk review because it facilitates examination of how gender relations influence resource distribution, access, control,

governance, and sustainable development in Narok County. Specifically, the framework guides the thematic analysis of secondary data by examining the extent to which women and men differ in ownership and utilization of productive resources, participation in governance institutions, access to livelihood opportunities, and resilience to climate-related challenges. It further enables the study to assess whether existing policies, institutional arrangements, and development strategies promote gender-equitable resource governance and sustainable development. By applying the FPE framework, the study interprets evidence beyond resource availability but also explores how power relations, cultural practices, and governance systems shape development outcomes, thereby providing a comprehensive understanding of gender and resource governance in Narok County.

METHODOLOGY

This study adopts a desk-review research methodology, which involves the systematic collection, analysis, and synthesis of secondary data from policy documents, academic literature, and institutional reports. The approach is appropriate for examining complex socio-economic and environmental issues such as gender, resource governance, and sustainable development, as it enables the integration of diverse sources of evidence across different contexts (Snyder, 2019; Okoli, 2015). Desk reviews are particularly useful in development studies where primary data collection may be constrained, yet substantial existing data can be critically analyzed to generate insights and identify gaps.

While desk reviews provide valuable opportunities to synthesize existing evidence across multiple sources, this methodology has inherent limitations that should be acknowledged. First, the quality and completeness of the analysis depend on the availability, accuracy, and comprehensiveness of secondary data sources (Snyder, 2019; Xiao & Watson, 2019). County planning documents may present an official perspective that does not fully capture grassroots realities, while academic literature may have geographic or thematic biases, with certain topics or regions receiving more attention than others. Second, the absence of primary data collection means that the study does not capture the lived experiences, voices, and perspectives of community members, particularly women, youth, and marginalized groups. Third, the thematic analysis approach relies on the authors' interpretation of the data, which may be influenced by their own perspectives and biases. To mitigate these limitations, the study triangulates evidence from multiple sources, as illustrated by Booth et al. (2021), including government documents, institutional reports, and peer-reviewed literature, and applies a clear theoretical framework (Feminist Political Ecology) to guide the analysis. Nevertheless, future research could complement this desk review with primary data collection, including household surveys, key informant interviews, and focus group discussions, to provide a more comprehensive understanding of gendered resource governance in Narok County.

Data Sources and Selection Criteria

The study draws on both primary policy documents and secondary scholarly sources. Key documents include the Narok County Integrated Development Plan (CIDP) 2023–2027 and the Annual Development Plan (ADP) 2024–2025, which provide official statistics on population, natural resources, climate trends, governance structures, and development priorities (Narok County Government, 2023a; 2023b). These are complemented by national and international reports from institutions such as the Kenya National Bureau of Statistics (KNBS), Food and Agriculture Organization (FAO), UN Women, and the Intergovernmental Panel on Climate Change (IPCC), as well as recent peer-reviewed studies focusing on gender, agriculture, climate change, and resource governance.

Sources were selected based on:

- Relevance to gender, resource governance, and sustainable development
- Recency (primarily 2018–2025 to ensure up-to-date evidence)
- Credibility (peer-reviewed journals, government publications, and recognized institutions)

This ensured that the analysis is both context-specific to Narok County and grounded in broader empirical and theoretical scholarship.

Data Analysis

The study employs a thematic analysis approach, in which data from the selected sources are organized into key themes, including resource availability and distribution, gendered access and control of resources, resource governance and participation, climate change and sustainability strategies, among others. This approach identifies and critically examines patterns, similarities, and contradictions across the literature. Additionally, thematic analysis integrates quantitative data, such as population figures and climate trends, with qualitative insights, including gender norms and governance dynamics, thereby providing a comprehensive understanding of the issues under study (Snyder, 2019).

RESULTS AND DISCUSSION

Resources in Narok County

Narok County has diverse natural and economic resources that sustain livelihoods and development. The county covers approximately 17,950.3 km² and had a projected population of about 1.28 million people in 2023, making resource availability and management central to local development (Narok County Government, 2023a). Land is the most important resource, supporting both crop farming and pastoralism, with high-potential areas producing wheat, maize, barley, beans, Irish potatoes, and horticultural crops, while vast rangelands sustain cattle, sheep, and goats (Narok County Government, 2023a; Narok County Government, 2023b). Wildlife and tourism are also major resources, especially through the Maasai Mara National Reserve, which covers about 1,510 km², hosts over 95 mammal species and more than 400 bird species and attracts approximately 158,000 tourists annually (Narok County Government, 2023a). In addition, Narok contains important forest resources, particularly the Mau Forest Complex, which supports biodiversity, water catchment, and climate regulation, making it vital for both ecological sustainability and economic activity (GoK, 2018).

The county also possesses significant water, minerals, and human resources, although these are under increasing pressure. Major rivers such as the Mara River and Ewaso Nyiro support agriculture, livestock, wildlife, and domestic use, but county data show declining rainfall, rising temperatures, and increased drought risk, all of which threaten long-term water security (Narok County Government, 2023a). Narok is also endowed with mineral and extractive resources, including gold deposits at Kilimapesa in Transmara South, as well as sand, quarry stone, and other construction materials found in County Wards such as Suswa, Mara, Siana, and Naikarra (Narok County Government, 2023a). Beyond natural resources, the county's growing population provides an important human and socio-economic resource base for agriculture, trade, tourism, and labor, although poverty, unemployment, low levels of education, and gender inequalities constrain the effective use of this human capital (KNBS, 2019; FAO, 2023). Therefore, while Narok County is richly endowed, sustainable development depends on how these lands, livestock, wildlife, forests, water, minerals, and human resources are governed and equitably utilized.

Despite this abundance, resource distribution remains uneven. Land fragmentation, environmental degradation, and competing land uses, such as agriculture, conservation, and settlement, have intensified pressure on available resources (Narok County Government, 2023b). Empirical studies in Narok further show that human activities such as deforestation, charcoal production, and land subdivision have negatively affected agricultural productivity and ecological sustainability (Kirui, 2016). From a Feminist Political Ecology (FPE) perspective, this uneven distribution is not merely ecological but also political, reflecting underlying power relations that determine who has access to and benefits from resources. Thus, resource availability alone does not guarantee equitable development outcomes.

Gendered Access, Control, and Utilization of Resources

In Narok, county planning documents confirm that crop farming, pastoralism, tourism, mining, and settlement all depend on land, yet land conflict and fragmentation remain key development challenges (Narok County Government, 2023a; Narok County Government, 2023b). The findings indicate that access to and control over resources in Narok County are strongly gendered. This pattern is especially relevant in Narok County, where

livelihoods depend heavily on land, livestock, and natural resources, but access is mediated by customary systems that tend to privilege men in ownership and major decision-making (Narok County Government, 2023a). Women play a central role in agriculture, livestock care, water collection, and household food security, yet they have limited ownership of key productive resources, particularly land. Recent evidence from Narok's small-scale potato farming sector also shows that women's empowerment in agriculture remains uneven, with disparities in control over production decisions, access to resources, and agency in household farming systems (Doss et al., 2018). County reports highlight that livelihoods are heavily dependent on land and livestock, but access is often mediated through customary systems that favor men (Narok County Government, 2023a). This aligns with broader empirical evidence showing that women in rural Africa contribute significantly to agricultural labor but control fewer assets and receive lower economic returns (FAO, 2023; Doss, 2018).

Studies in Narok confirm these disparities. For instance, research on women's empowerment in agriculture found that although women actively participate in farming, they have limited decision-making power over production and income (Doss et al., 2018). Similarly, studies on livestock commercialization in parts of Africa indicate that while pastoral economies are evolving toward market-oriented systems, women remain marginalized in ownership and high-value transactions (Catley et al., 2013). Through the lens of the FPE framework, these findings demonstrate that gender inequalities are embedded in social norms and institutional structures, limiting women's agency and reducing the overall efficiency of resource utilization. Consequently, gender inequality not only affects equity but also undermines productivity and sustainability.

While this study analyses gender as a key dimension of inequality in resource governance, it is important to recognize that women are not a homogeneous group (Collins & Bilge, 2020). Women's experiences of resource access, control, and governance are shaped by intersecting social characteristics, including age, marital status, ethnicity, education, wealth, geographic location, and household position (UN Women, 2023). For example, widows may face particular vulnerability in customary land tenure systems where inheritance and property rights are mediated through male relatives, while women in pastoral communities often experience different constraints from those living in predominantly agricultural areas. Similarly, younger women may face different barriers than older women, and women with higher levels of education may have greater capacity to engage with governance institutions and access development opportunities. An intersectional perspective therefore demonstrates that gender inequality interacts with other forms of social inequality to produce diverse experiences of resource governance. Addressing these intersecting inequalities requires targeted interventions that recognize the diversity of women's experiences and respond to the specific barriers faced by different groups (FAO, 2023). Future studies should adopt intersectional approaches to provide a more nuanced understanding of resource governance and sustainable development in Narok County.

Climate Change, Resource Stress, and Gendered Vulnerability

Climate change is a major factor influencing resource utilization and sustainability in Narok County. Evidence from county data shows declining rainfall trends since 1985, rising temperatures, and increasing frequency of droughts, leading to reduced agricultural productivity and increased vulnerability of pastoral systems (Narok County Government, 2023a). Additionally, projections indicate an increase in consecutive dry days and shorter growing seasons, further threatening food security.

Empirical studies reinforce these findings, showing that drought severity in Narok's arid and semi-arid areas has intensified over time, affecting livestock, agriculture, and water availability (Opiyo et al., 2015). These environmental changes disproportionately affect women, who rely heavily on natural resources for household survival. Studies on climate vulnerability in rural Kenya show that gender inequality amplifies exposure to environmental risks, as women often have fewer assets and limited access to adaptive resources (Jayne et al., 2014). From an FPE framework perspective, this highlights that vulnerability is socially constructed, that is, women are not inherently more vulnerable but become so due to unequal access to resources and decision-making power. The implication for Narok is that gendered vulnerability is not accidental, for it is produced where environmental risk meets unequal access to assets and institutions. Thus, climate change interacts with gender inequality to deepen poverty and resource insecurity.

In addition, Narok's economy is deeply tied to food systems through crop production, livestock, and

environmental services, but vulnerability in one sector quickly affects others (Narok County Government, 2023a). Recent evidence from Narok livestock-keeping households also suggests that household food and nutrition outcomes are linked to farming systems, livestock ownership, and gendered patterns of care and consumption (Narok County Government, 2023a). In Narok, this is especially significant because the county's development model depends on balancing agriculture, conservation, water, and livelihoods in a climate-stressed context.

Resource-Based Conflicts and their Gendered Dimensions

Competing demands for land and other natural resources in Narok County have increased the potential for resource-based conflicts, with important gendered implications. The county experiences competing land uses arising from agriculture, pastoralism, wildlife conservation associated with the Maasai Mara National Reserve, settlement expansion, and infrastructural development, all of which place considerable pressure on finite natural resources (Narok County Government, 2023a). These competing demands generate conflicts among farmers, pastoralists, conservation agencies, local communities, and different ethnic groups. Evidence from Kenya indicates that resource-based conflicts are not gender-neutral. Women frequently bear disproportionate burdens through displacement, loss of livelihoods, food insecurity, increased household care responsibilities, and reduced access to productive resources, yet they remain underrepresented in conflict prevention and resolution mechanisms (UN Women, 2023; FAO, 2023). In Narok County, climate change, land fragmentation, and population growth continue to intensify competition over land, water, and grazing resources, thereby increasing the risk of conflict. Addressing these challenges requires inclusive governance systems that promote women's participation in conflict prevention, peacebuilding, and natural resource management while strengthening community-based dispute resolution institutions (IPCC, 2022).

Resource Governance and Gender Participation

Narok County has adopted participatory governance frameworks through instruments such as the CIDP and ADPs, which involve stakeholders across all 30 wards, including women, youth, business actors, and civil society, in planning and decision-making processes (Narok County Government, 2023a). These frameworks aim to promote inclusivity, transparency, and equitable resource allocation. However, the findings reveal that while participation has improved, meaningful influence remains limited, particularly for women. Analytically, this means that Narok's governance tools may be inclusive in design but uneven in their effects, especially for rural women in pastoral settings.

Empirical literature supports this observation, indicating that participation does not necessarily translate into decision-making power or control over resources (Cornwall, 2016; Huyer et al., 2021). In many cases, existing governance structures continue to reflect traditional power hierarchies, where men dominate leadership and resource allocation decisions. Studies on community development in Kenya further emphasize that access to opportunities and benefits is shaped by who holds power within local institutions (Huyer et al., 2021). From an FPE framework perspective, this reflects the distinction between "power to participate" and "power to decide," highlighting that inclusive governance must go beyond representation to address structural inequalities (Rocheleau, Thomas-Slayter, and Wangari, 1996).

In addition to formal governance structures such as the County Integrated Development Plan (CIDP) and Annual Development Plans (ADPs), customary institutions play a significant role in resource governance in Narok County, particularly in pastoral and agro-pastoral communities. Customary institutions, including elders' councils, clan structures, and traditional leadership systems, mediate access to land, livestock, water, and other natural resources through norms, rules, and dispute resolution mechanisms (Catley et al., 2013). However, these institutions are often gendered, with men holding disproportionate authority in decision-making processes while women's voices remain marginalized (Agarwal, 2018). The interaction between formal and customary governance systems presents both opportunities and challenges for gender-equitable resource governance. On one hand, customary institutions possess strong legitimacy within local communities and facilitate locally accepted resource management practices. On the other hand, they may reinforce patriarchal norms that restrict women's access to productive resources and participation in governance (Agarwal, 2018). Achieving gender-transformative resource governance therefore requires engaging customary institutions in ways that strengthen

women's participation and leadership while respecting positive cultural values and addressing discriminatory practices.

Indicators of Gendered Resource Utilization and Resource Management Tools

Resource management in Narok County is guided by several institutional and policy tools that shape planning, allocation, and utilization of resources. Key among these is the County Integrated Development Plan (CIDP) 2023–2027, which serves as the primary framework for resource allocation and development planning, alongside Annual Development Plans (ADPs) that operationalize these priorities on a yearly basis (Narok County Government, 2023a; 2023b). Additional tools include participatory governance mechanisms implemented across all 30 wards, program-based budgeting systems, monitoring and evaluation frameworks, and sector-specific instruments such as climate-smart agriculture programs, water management systems, and community conservancies. However, while these tools promote inclusivity in design, their effectiveness in addressing gender inequalities remains limited. Women's participation in planning processes does not always translate into influence over resource allocation or making decisions, reflecting persistent gaps between policy intentions and actual outcomes (Huyer et al., 2021; Cornwall, 2016). From a Feminist Political Ecology perspective, these tools are not neutral but are embedded within existing power structures that continue to shape who accesses, controls, and benefits from resources.

Strategies and Local Initiatives for Sustainable Resource Management

Narok County has implemented several strategies aimed at promoting sustainable development and resource management. These include climate-smart agriculture programs, water infrastructure development, community conservancies and wildlife management initiatives, and women's empowerment groups and economic programs. The CIDP aligns these strategies/ initiatives with the Sustainable Development Goals (SDGs), emphasizing environmental sustainability, poverty reduction, and social inclusion (Narok County Government, 2023a). Additionally, national and regional studies highlight the importance of integrating gender into climate adaptation and resource management strategies to enhance resilience (Conrad, 2024).

However, the effectiveness of these strategies is mixed. While they promote participation and awareness, many remain gender-inclusive rather than gender-transformative, meaning they include women without fundamentally changing the power relations. Empirical evidence suggests that sustainable outcomes are more likely when interventions address underlying inequalities in access, control, and decision-making over resources (Huyer et al., 2021; Agarwal, 2018). Therefore, without deliberate efforts to transform gender norms and institutional structures, these initiatives may have limited long-term impact.

Education, Human Capital and Resource Utilization

Education is a critical determinant of resource utilization and sustainable development in Narok County. Despite improvements in access to education, disparities persist, particularly among girls in pastoral areas where early marriages, cultural practices, and mobility patterns limit school attendance (KNBS, 2019). These inequalities affect human capital development and reduce individuals' capacity, especially women, to engage effectively in resource management and governance. Studies show that education enhances awareness, adoption of climate-smart agricultural practices, and participation in economic and governance processes (FAO, 2023; Huyer et al., 2021). In Narok County, limited access to education among women constrains their ability to access information, credit, and extension services, thereby reinforcing gender disparities in resource utilization. From a Feminist Political Ecology perspective, education can be understood as a form of power that influences access to resources and decision making, highlighting its importance in achieving sustainable development.

Synthesis of Findings

Overall, the findings demonstrate that Narok County has abundant resources but unequal distribution. Gender inequalities significantly shape access, control, and utilization. Climate change intensifies existing vulnerabilities. Governance structures are inclusive in form but not fully equitable in practice. From a Feminist

Political Ecology perspective, these outcomes reflect deeper structural inequalities rather than isolated development challenges. Sustainable development in Narok County, therefore, depends not only on resource availability but also on transforming gender relations and power dynamics that govern access and decision-making.

CONCLUSION AND RECOMMENDATIONS

Conclusion

This study examined the intersection of gender, resource governance, and sustainable development in Narok County, Kenya, using a desk review approach informed by Feminist Political Ecology (FPE). The findings demonstrate that although Narok County is richly endowed with natural resources, including land, wildlife, forests, and water systems, these resources are unevenly distributed and governed, with significant implications for equity and sustainability (Narok County Government, 2023a). The county's growing population of over 1.28 million people and increasing pressure on land have intensified competition over resources, further exposing underlying inequalities in access and control.

A key finding of the study is that gender plays a central role in shaping resource utilization and development outcomes. Women contribute significantly to agriculture, livestock management, and household livelihoods, yet they remain disadvantaged in land ownership, access to financial resources, and participation in decision-making processes (FAO, 2023; Doss, 2018). These inequalities are reinforced by customary land tenure systems and socio-cultural norms that prioritize male authority, thereby limiting women's agency and economic opportunities. From a Feminist Political Ecology perspective, these disparities reflect broader power relations embedded in social and institutional structures rather than isolated inequalities (Agarwal, 2018).

The study further establishes that climate change is worsening resource stress in Narok County, with evidence of declining rainfall trends, rising temperatures, and increasing drought frequency threatening agricultural productivity and pastoral livelihoods (Narok County Government, 2023a). These environmental changes disproportionately affect women due to their dependence on natural resources and limited access to adaptive capacities (IPCC, 2022). At the same time, while devolved governance frameworks such as the CIDP and ADPs promote public participation, the findings reveal a gap between inclusion and actual influence, as women's participation does not always translate into meaningful decision-making power (Cornwall, 2016; Huyer et al., 2021).

Overall, the study concludes that sustainable development in Narok County cannot be achieved without addressing the structural gender inequalities that shape access to and control over resources. Effective resource governance requires not only improved policies, tools and programs but also the transformation of gender norms and power relations that influence decision-making and resource distribution.

The findings of this study therefore contribute to broader debates on gender, resource governance, and sustainable development in several important ways. First, the study provides empirical evidence from Narok County supporting the Feminist Political Ecology framework, demonstrating that access to and control over natural resources are shaped by gendered power relations, socio-cultural norms, and political-economic structures (Rocheleau et al., 1996). This extends the application of Feminist Political Ecology to pastoral and agro-pastoral contexts in Kenya. Second, the findings reinforce the growing body of evidence that gender inequality is not only a social justice concern but also a major constraint to sustainable development, as unequal access to productive resources, limited participation in governance, and gendered vulnerability to climate change undermine agricultural productivity, food security, resilience, and poverty reduction.

Third, the study highlights the persistent gap between policy intentions and implementation by demonstrating that participatory governance frameworks may be inclusive in design but fail to produce transformative outcomes in practice (Huyer et al., 2021). Finally, the study underscores the importance of education and human capital in strengthening women's participation in governance, enhancing adaptive capacity, and promoting sustainable resource utilization. Collectively, these findings have implications not only for Narok County but also for other pastoral and agro-pastoral regions in Kenya and across Sub-Saharan Africa seeking

to achieve gender-equitable and sustainable resource governance.

Recommendations

a. Strengthen women's land ownership and resource rights

There is a need for deliberate policy and legal reforms to enhance women's access to and control over land and productive resources. This includes promoting joint land ownership and registration; reforming customary practices that exclude women; and enhancing awareness of land rights. Improved land ownership will increase women's investment in agriculture and enhance productivity and sustainability (Agarwal, 2018).

b. Promote gender-transformative resource governance

Narok County should move beyond participatory approaches to adopt gender-transformative governance frameworks that ensure women's representation in decision-making bodies, strengthen women's leadership in community institutions, and address power imbalances in resource allocation. This will bridge the gap between participation and actual influence (Huyer et al., 2021).

c. Enhance climate-resilient and gender-responsive strategies

Given the increasing climate risks, the county should collaborate with other institutions such as Ewaso Ngiro South Development Authority (ENSDA) to expand climate-smart agriculture programs targeting women, improve access to climate information, early warning systems, and support diversification of livelihoods. Such strategies will strengthen resilience and reduce vulnerability to environmental shocks (IPCC, 2022; Conrad, 2024).

d. Improve access to financial services and extension support

Women's productivity is constrained by limited access to credit, markets, and agricultural extension services. The county should support women's cooperatives and savings groups, expand financial inclusion programs, and provide gender-sensitive agricultural training. Closing these gaps can significantly enhance agricultural output and economic empowerment (FAO, 2023).

e. Strengthen data collection and gender-disaggregated monitoring

Effective planning requires accurate data. The county should collect and use gender-disaggregated data in all sectors, monitor resource allocation and utilization across gender lines, and integrate gender indicators into development planning. This will improve evidence-based policymaking and accountability (UN Women, 2023).

f. Promote education and capacity building

The county government should invest in improving access to education, particularly for girls in pastoral communities, and provide training on sustainable resource management and climate resilience, promote environmental awareness and leadership skills. Education enhances women's participation in governance, improves resource utilization, and strengthens adaptive capacity to environmental shocks (World Bank, 2022; FAO, 2023). Educated women are more likely to participate in governance and adopt sustainable practices (FAO, 2023). Education is therefore a key driver of empowerment and sustainable development.

g. Support community-based and inclusive development models

Local initiatives such as community conservancies and resource user groups should ensure equal participation of women and marginalized groups, promote equitable benefit-sharing mechanisms, and strengthen accountability and transparency. Inclusive community-based approaches enhance both sustainability and social equity (Huyer et al., 2021).

In conclusion, achieving sustainable development in Narok County requires not only effective management of natural resources but also a fundamental transformation of gender relations and governance systems to ensure equitable access, control, and participation in resource utilization.

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