

From Firewood to Fear: The Gendered Socioeconomic Consequences of Environmental Resource Conflicts among Refugees and Host Communities in Adjumani District, Northern Uganda

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ABSTRACT

Environmental resource conflicts present significant challenges in refugee-hosting areas where shared land, water, forests, and grazing resources fuel tensions. While previous research explores conflict drivers, the gendered socioeconomic impacts, particularly on women remain understudied. This study assessed the socioeconomic consequences of environmental resource conflicts on refugees and host communities in Adjumani District, Northern Uganda, emphasizing women lived experiences. Using an exploratory qualitative design guided by Interpretative Phenomenological Analysis (IPA), data were gathered through 31 household interviews, 8 Key Informant Interviews, and 2 Focus Group Discussions. Findings revealed that disputes over land, water, firewood, and grazing disrupted livelihoods, worsened poverty and food insecurity, eroded social cohesion, and exposed women and girls to gender-based violence (GBV). Women disproportionately bore the resource scarcity burden due to domestic responsibilities like fetching water, harvesting grass for thatching huts and firewood. Furthermore, conflicts undermined trust, hindered cooperation, and restricted youth engagement and education. At last, these environmental resource conflicts are gendered social justice issues, not merely ecological or economic trials. Addressing them demands integrated humanitarian, environmental, and peacebuilding interventions. Prioritizing women-centred livelihoods, alternative energy initiatives, community resource governance, and gender-responsive protection is vital to fostering sustainable coexistence.

1. Introduction

Environmental resource-related conflicts have increasingly become a major global concern, particularly in regions experiencing forced displacement, rapid population growth, and climate-related environmental changes. Across the world, competition over natural resources such as land, water, forests, grazing areas, and energy sources has intensified due to increasing pressure from human activities and environmental degradation. The growing frequency of climate shocks, including droughts, floods, and land degradation, has further reduced the availability of natural resources and heightened the risk of conflicts among resource-dependent communities (Reuveny, 2007; Homer-Dixon, 1999; United Nations Environment Programme [UNEP], 2022).

In many refugee-hosting countries, large-scale displacement often places additional pressure on already limited environmental resources, creating tensions between displaced populations and host communities. As noted by Betts and Collier (2017), the interaction between displacement, environmental stress, and poverty can generate complex socioeconomic challenges that undermine social cohesion and sustainable development.

Globally, the number of forcibly displaced persons has reached unprecedented levels. According to the United Nations High Commissioner for Refugees (UNHCR, 2024), more than 120 million people are currently displaced due to conflict, persecution, and environmental crises. Many of these displaced populations settle in environmentally fragile regions where access to natural resources is already constrained. Consequently, refugee-hosting areas frequently experience increased demand for agricultural land, water sources, forest products, and settlement space. Research conducted in various refugee-hosting contexts has shown that competition over environmental resources often contributes to livelihood disruptions, environmental degradation, and strained relations between refugees and host populations (Black, 2001; Jacobsen, 2002; Lischer, 2015).

In Sub-Saharan Africa, environmental resource scarcity has emerged as a significant driver of tensions between refugees and host communities. Countries such as Kenya, Ethiopia, Sudan, and Uganda have experienced challenges associated with increased pressure on forests, water points, grazing land, and agricultural resources due to large refugee populations (Jaji, 2019; Fekadu & Feyissa, 2020). Environmental degradation resulting from deforestation, overgrazing, and unsustainable land use practices has often intensified existing vulnerabilities among both refugees and host communities. These challenges have contributed to food insecurity, reduced agricultural productivity, poverty, and weakened social relationships (Martin, Weerasinghe, & Taylor, 2014; World Bank, 2023). Women are often excessively affected because they bear primary responsibility for collecting water and firewood, preparing food, and caring for household members. As a result, environmental resource scarcity not only affects livelihoods but also increases women's workload, exposure to violence, and vulnerability to socioeconomic exclusion (Raleigh, 2017; UN Women, 2022).

Uganda hosts one of the largest refugee populations in Africa and has gained international recognition for adopting one of the most progressive refugee protection regimes in the world. The country currently hosts over 1.8 million refugees and asylum seekers, mainly from South Sudan, the Democratic Republic of Congo, Sudan, and other neighbouring countries (UNHCR, 2024). Uganda's refugee policy framework allows refugees freedom of movement, access to social services, the right to work, and access to land for cultivation, thereby promoting self-reliance and socioeconomic integration (Government of Uganda, 2006; Betts et al., 2019). However, despite these progressive policies, refugee-hosting districts continue to face significant environmental and socioeconomic challenges.

Adjumani District in Northern Uganda represents one of the most important refugee-hosting areas in the country. Following recurrent conflicts in South Sudan since 2013, the district received large numbers of refugees who were settled in various refugee settlements, including Ayilo I and Ayilo II. The rapid population increase placed considerable pressure on environmental resources, particularly land, forests, water sources, and grazing areas. Evidence from previous studies and field reports indicates that competition over these resources has contributed to tensions and conflicts between refugees and host communities, affecting livelihoods, food security, environmental sustainability, and social cohesion (Office of the Prime Minister [OPM], 2023; Uganda Refugee Response Plan, 2022–2025). While several studies have examined the causes and environmental dimensions of these conflicts, limited attention has been given to understanding their gendered socioeconomic consequences, particularly for women and girls. This study therefore explores the socioeconomic impacts of environmental resource-related conflicts on refugees and host communities in Adjumani District, with particular emphasis on women's experiences and vulnerabilities.

1.2 Analysis of Uganda's Progressive Refugee Policy Framework

Uganda's refugee protection framework is widely regarded as one of the most progressive and inclusive refugee policy systems globally. The framework is anchored in the Refugees Act of 2006 and the Refugee Regulations of 2010, which domesticate international refugee protection principles contained in the 1951 United Nations Convention Relating to the Status of Refugees and the 1969 Organization of African Unity Convention Governing Specific Aspects of Refugee Problems in Africa (Government of Uganda, 2006; OAU, 1969). Unlike many countries that confine refugees to camps and restrict their economic participation, Uganda adopts a settlement-based approach that promotes refugee self-reliance, social inclusion, and peaceful coexistence with host communities. The Ugandan model grants refugees the right to work, move freely, establish businesses, access public services, and receive land for cultivation. These provisions have been further strengthened through the Comprehensive Refugee Response Framework (CRRF), the Refugee and Host Population Empowerment (ReHoPE) Strategy, and the Uganda Refugee Response Plan (2022–2025), all of which emphasize integrated development approaches that benefit both refugees and host communities (Government of Uganda & UNHCR, 2017; World Bank, 2019). The policy framework recognizes that refugee welfare and host community development are interdependent and therefore promotes shared access to services, infrastructure, and livelihood opportunities.

However, despite these progressive policy achievements, implementation challenges remain evident in refugee-hosting districts such as Adjumani. The allocation of agricultural land to refugees, while essential for self-reliance, has increased demand for already scarce environmental resources. Large refugee populations have accelerated deforestation, increased water demand, expanded cultivation into previously unused areas, and intensified competition over grazing land and forest products (FAO, 2021; OPM, 2023). These pressures have sometimes generated tensions between refugees and host communities, particularly where resource governance systems are weak or where local communities perceive inequalities in access to humanitarian assistance.

From a gender perspective, the policy framework provides important opportunities for women through livelihood support, protection programming, and participation in community governance structures. Nevertheless, women continue to face disproportionate burdens arising from environmental resource scarcity. Because women are primarily responsible for collecting firewood and water and maintaining household welfare, they experience greater exposure to conflict risks and gender-based violence in contested resource areas (UN Women, 2022; ReHoPE, 2017).

Consequently, while Uganda's refugee policy framework has significantly advanced refugee protection and socioeconomic inclusion, the persistence of environmental resource-related conflicts demonstrates the need for stronger environmental governance, gender-responsive programming, and sustainable resource management interventions.

The findings of this study therefore provide important evidence on how environmental resource-related conflicts continue to affect refugee-hosting communities despite the existence of progressive policy frameworks. Understanding these socioeconomic impacts, particularly on women, is essential to inform future policy reforms and strengthen the implementation of Uganda's refugee response strategy in ways that promote environmental sustainability, social cohesion, and gender equality.

2. Literature Review

2.1 Socio-Economic Impacts of Environmental Resource-Related Conflicts

The literature identifies livelihood insecurity and household poverty as central socio-economic consequences of environmental resource-related conflicts among refugees and host communities. Climate change, environmental degradation and forced displacement interact to intensify vulnerability, particularly where communities depend heavily on land, forests and water for agriculture and other livelihoods (IPCC, 2023).

Competition over land and water can reduce agricultural productivity, constrain access to grazing and cultivation areas, and weaken household income and food security (FAO, 2024; World Bank, 2023). However, the literature cautions against attributing these outcomes solely to refugees. Refugee populations can contribute labour, entrepreneurship, agricultural production and market demand, meaning that refugee presence may generate both economic opportunities and additional pressure on already limited resources (Betts & Collier, 2017). This suggests that socio-economic outcomes are shaped not only by population pressure but also by environmental governance, resource availability and pre-existing structural vulnerabilities (Lischer, 2015).

2.2 Unequal distribution of environmental and socio-economic burdens

Environmental degradation and declining availability of water and firewood increase the time households spend collecting essential resources, reducing opportunities for productive work and education (UNEP, 2023). Women and girls are particularly affected because of their disproportionate responsibility for water and firewood collection, which can increase protection risks and restrict participation in education and income-generating activities (WHO, 2024). Evidence from East Africa similarly links competition over water, pasture, forests and agricultural land with livelihood disruption, food insecurity and social instability (Jaji, 2019; Fekadu & Feyissa, 2020; IGAD, 2024).

2.3 Public services and social cohesion

Increased refugee populations can place pressure on schools, health facilities, water systems and sanitation infrastructure, particularly where public investment does not keep pace with population growth (World Bank, 2023; WHO, 2024). Competition over land, employment, humanitarian assistance and natural resources may also generate mistrust and perceptions of inequality, although shared livelihoods, community dialogue and local mediation can strengthen cooperation (Ager & Strang, 2008). In Adjumani, available evidence specifically associates land competition with reduced cultivation space, disputes over boundaries and customary ownership, while water scarcity and forest depletion increase household burdens and undermine livelihoods (Akumu, 2020; UNEP, 2023). Nevertheless, much of the existing literature emphasises measurable livelihood outcomes or humanitarian interventions, with limited attention to how refugees, hosts, leaders and humanitarian actors experience, interpret and negotiate these pressures in everyday life. This constitutes an important qualitative gap that the present study seeks to address.

3. Methodology

This study employed an exploratory qualitative research design guided by Interpretative Phenomenological Analysis (IPA) to explore the socioeconomic impacts of environmental resource-related conflicts on refugees and host communities in Adjumani District, Northern Uganda. The study was conducted in Ayilo I and Ayilo II Refugee Settlements, which were purposively selected because they host large populations of South Sudanese refugees and have experienced recurrent interactions and tensions related to access to environmental resources such as land, water, firewood, and grazing areas. These settlements provided an appropriate context for understanding the lived experiences of both refugees and host communities affected by environmental resource-related conflicts. Ethical approval for the study was obtained from the Gulu University Research Ethics Committee (GUREC) in March 2025. Administrative clearance was subsequently secured from the Adjumani District Chief Administrative Officer (CAO) and the Office of the Prime Minister (OPM) in April 2025. Recruitment and training of research assistants on research ethics, qualitative interviewing techniques, and data collection procedures were conducted in May 2025, followed by field data collection during the same month. Data analysis, interpretation of findings, and dissertation write-up were completed in January 2026.

The study employed 55 participants comprising 29 males and 26 females, including 28 refugees and 27 host community members, alongside local leaders, humanitarian workers, and government officials. Data were collected from 31 household interviews, 8 Key Informant Interviews (KIIs), and 2 Focus Group Discussions (FGDs), each involving eight participants. Interviews were conducted in English, Ma'di, Dinka, and Juba Arabic, translated into English, transcribed verbatim, and analysed thematically. Ethical standards were upheld throughout the study by obtaining informed consent, ensuring participants' confidentiality, and adhering to established principles governing research involving human participants.

4. Findings and Discussions

The findings of this study demonstrate that environmental resource-related conflicts in Adjumani District have far-reaching socioeconomic consequences that extend well beyond competition over natural resources. While land, water, forests, grazing areas, and firewood were identified as the immediate sources of tension between refugees and host communities, the findings reveal that these conflicts have gradually transformed into livelihood, gender, development, and protection challenges that shape everyday life in refugee-hosting communities. The experiences shared by participants show that environmental resources are not merely ecological assets but the foundation upon which food production, household income, social identity, cultural belonging, and family survival depend. Consequently, when access to these resources becomes contested, the effects are felt across multiple dimensions of community wellbeing.

The findings strongly support Homer-Dixon's Resource Scarcity Theory, which argues that increasing demand for limited environmental resources contributes to competition, institutional pressure, and social conflict (Homer-Dixon, 1999). However, this study also extends the theory by demonstrating that resource scarcity is experienced differently across gender, social position, and displacement status. Rather than affecting refugee and host communities equally, environmental scarcity disproportionately burdens women because of their socially assigned responsibilities for collecting water, firewood, and other household resources. This finding suggests that environmental conflicts in Adjumani cannot be adequately understood through ecological scarcity alone but require a gender-responsive analysis that incorporates livelihood vulnerability, social justice, and protection concerns. Similar arguments have been advanced by Feminist Political Ecology scholars, who maintain that access to and control over environmental resources are shaped by unequal gender relations and power structures rather than resource availability alone (Rocheleau et al., 1996; Elmhirst, 2015).

4.1 Environmental resource conflicts as drivers of livelihood disruption and poverty

One of the most significant findings of this study is that environmental resource conflicts have disrupted livelihoods for both refugees and host communities, increasing poverty and reducing household resilience. Agriculture remains the primary livelihood source in Adjumani District for both populations. Refugees depend on allocated or rented land for food production following reductions in humanitarian food assistance, while host communities rely on customary land for farming, livestock keeping, and household income. Competition over these shared resources therefore directly affects household survival.

Participants consistently described how disputes over land prevented cultivation, reduced crop production, affected livestock grazing, and increased household expenditure. One refugee participant (HH001/ROP, 2025), explained:

"When UNHCR said they will stop giving food to people who have stayed in the settlement for more than seven years, I went and rented extra land to dig and grow food. But later, I found out that the same land was given to another person too. This brought a big fight between me and the land owner, and he refused to pay me back"

This quotation illustrates how reductions in humanitarian assistance indirectly increase pressure on environmental resources. The participant's experience demonstrates that declining food aid pushed refugee households towards agriculture as an alternative survival strategy. However, weak land governance, multiple allocations of rented land, and informal rental arrangements created new forms of conflict and financial loss.

From the researcher's perspective, this finding shows that transitions from humanitarian assistance to self-reliance cannot succeed unless refugees have secured, transparent, and affordable access to productive land.

Host community participants similarly viewed increasing population pressure as a major contributor to declining livelihood opportunities. As one participant observed:

"Conflicts about land, water, and food come up because the population is growing fast, but the land is limited" (HH0022/HR.R, 2025).

This finding reflects broader evidence from refugee-hosting districts across Uganda, where increasing refugee populations have reduced average land holdings, increased land rental prices, and intensified competition over agricultural resources (World Bank, 2023). However, the findings from Adjumani also demonstrate that population growth alone does not explain livelihood conflict. Weak land administration, overlapping customary and statutory land systems, and inadequate conflict resolution mechanisms create conditions where environmental scarcity becomes socially and economically destructive.

The consequences of livelihood disruption extend beyond agriculture into household poverty and reduced resilience. Participants described losing livestock during conflicts, spending scarce income purchasing firewood, and abandoning gardens because of insecurity. One male participant explained:

"When these quarrels over land and water start, our cows are chased far away and the young children grow thin and sick without milk. We are too afraid to go out to the fields to dig the garden, so the granaries stay empty and our harvest becomes small. Now the money for the home is finished, and the children suffer because the farm produces nothing" (HH001/1DD, 2025).

This testimony demonstrates the interconnected nature of environmental conflict. Livestock loss reduces milk consumption and household income. Fear of accessing farmland reduces agricultural production. Reduced harvests increase food insecurity, forcing households to spend limited income on food purchases. Poverty therefore becomes both a consequence and a driver of environmental conflict.

These findings agree with studies conducted in Sub-Saharan Africa showing that competition over land and water weakens traditional livelihood systems, reduces agricultural productivity, and increases household poverty among refugee-hosting communities (FAO, 2024; Lischer, 2015). They also resonate with Adrian Martin's argument that environmental conflict in refugee-hosting communities is shaped not only by resource scarcity but by the governance systems that determine access, ownership, and participation in resource management. Participatory and inclusive environmental governance can transform resource competition into cooperation rather than violence.

As a researcher, I interpret these findings as evidence that livelihoods are the first victims of environmental conflict. Every dispute over land, trees, or grazing space immediately translates into reduced production, declining income, and increased household vulnerability. In Adjumani District, environmental resources are equivalent to employment opportunities, food reserves, savings, and insurance against future shocks. When these resources become contested, households lose both their present livelihoods and their future resilience.

4.2 Food insecurity and declining household welfare

The findings further demonstrate a strong relationship between environmental resource conflicts and food insecurity. Refugees repeatedly linked reductions in humanitarian food assistance with increased competition over agricultural land. Participants explained that shrinking food rations forced households to cultivate more land despite limited availability and rising rental costs. Consequently, environmental resource conflicts became closely connected to hunger and declining household welfare.

This finding aligns with recent studies from refugee settlements in Uganda, where reductions in food assistance increased negative coping mechanisms, mistrust, and competition over livelihood resources (Nanfuka et al., 2025). The study therefore suggests that food insecurity functions as a conflict multiplier rather than an isolated humanitarian challenge. When households cannot meet their food needs through assistance or agriculture, pressure on forests, water sources, and rented farmland inevitably increases.

Food insecurity also affected host communities. Participants explained that declining agricultural productivity reduced household harvests and increased dependence on local markets. Environmental degradation reduced soil fertility and shortened cultivation cycles, while overcrowded water sources affected irrigation and livestock production.

These experiences support findings from UNEP (2023) and the World Bank (2023), which argue that environmental degradation undermines ecosystem services essential for household food production and rural livelihoods.

From the researcher's perspective, the findings challenge the assumption that refugee self-reliance automatically reduces dependence on humanitarian assistance. Self-reliance requires access to productive land, functioning markets, agricultural inputs, environmental restoration, and peaceful coexistence. Without these conditions, reducing food assistance may unintentionally increase environmental pressure and deepen refugee-host tensions.

4.3 Women's invisible labor and the gendered burden of environmental scarcity

Perhaps the most important finding emerging from this study is that women experience environmental resource conflicts differently and more intensely than men. Across household interviews (HHIs), focus group discussions (FGDs), and key informant interviews (KIIs), women consistently described increasing workloads associated with collecting firewood, water, grass for roofing huts, and

other household resources. Environmental degradation had pushed these resources further away from settlements, increasing travel distances, physical exhaustion, and time poverty. One refugee woman (HH001/ROP, 2025) explained:

"There is a time where we refugees' women are not allowed to fetch firewood for domestic cooking while there is no alternative source of fuel we can use"

Another participant described being denied access to grass used for roofing family shelters:

"They refused to let me cut grass in their area, yet that is the only material we refugees use to roof our huts because there is no grass inside the settlement" (HH004/RCA, 2025).

These testimonies illustrate how environmental scarcity increases women's unpaid labor while simultaneously exposing them to discrimination and exclusion. Women are expected to provide cooking fuel, water, and shelter materials regardless of resource availability. When nearby forests become depleted or inaccessible, women travel longer distances into unfamiliar or contested areas where they face hostility from host communities and increased protection risks.

The findings closely correspond with literature showing that women bear disproportionate environmental burdens because they are primarily responsible for household energy, water, and food collection (Jacobsen, 2015; Raleigh, 2017; Sirbele, 2023). Studies across refugee-hosting communities in East Africa similarly show that environmental degradation reduces women's opportunities for education, income generation, and community participation because increasing amounts of time are spent collecting essential resources. Importantly, the findings expose an important limitation within Resource Scarcity Theory. While Homer-Dixon effectively explains how scarcity generates competition, the theory treats communities as relatively homogeneous actors. The experiences of women in Adjumani demonstrate that scarcity is mediated through gender roles, unequal power relations, and cultural expectations. Women experience scarcity not only as reduced resource availability but as increased unpaid labor, emotional stress, restricted mobility, and heightened vulnerability.

From my perspective as the researcher, these findings reveal what may be described as the feminization of environmental survival within refugee-hosting communities. Women become the frontline responders to environmental scarcity. Every shortage of water, firewood, or grass is absorbed through women's labor before it becomes visible as a household crisis. Yet despite carrying this responsibility, women remain underrepresented in environmental decision-making structures, peace committees, and natural resource governance. This study therefore argues that environmental management interventions in refugee-hosting communities must begin by recognizing women lived experiences as central evidence rather than secondary perspectives. Environmental restoration, alternative energy programs, community woodlots, and natural resource governance will remain incomplete if women are treated merely as beneficiaries instead of decision-makers. Sustainable peace and environmental sustainability in Adjumani depend on acknowledging women's dual role as both the most affected group and one of the most important actors in protecting household livelihoods and rebuilding peaceful coexistence.

4.4 Social Cohesion, Gender-Based Violence, Youth Peacebuilding, Uganda's Refugee Policy Framework, and the Researcher's Critical Interpretation

The findings of this study further reveal that environmental resource-related conflicts in Adjumani District extend beyond competition over land, water, firewood, and grazing areas to reshape relationships between refugees and host communities. While resource scarcity initially appears as an environmental problem, participants consistently described its consequences in terms of mistrust, discrimination, social exclusion, insecurity, and weakened peaceful coexistence. These findings demonstrate that environmental conflict is simultaneously an ecological, social, political, and protection issue. The everyday interactions between refugees and host communities have become increasingly influenced by perceptions of unequal resource access, unequal humanitarian assistance, and competing claims over land and environmental resources. Consequently, environmental resource conflicts gradually become conflicts over identity, belonging, and social justice.

4.4.1 Environmental resource conflicts and the erosion of social cohesion

One of the strongest findings emerging from this study is the gradual erosion of social cohesion and trust between refugees and host communities. Participants explained that competition over environmental resources has created suspicion, stereotypes, negative labelling, and reduced interaction between the two communities. What begins as disagreement over access to land or firewood often develops into broader mistrust between groups that have lived side by side for several years. A refugee participant described this painful experience by saying:

"When the host community call us, refugees! It affects our interaction with them in a negative way." (HH001/ROP, 2025).

The quotation demonstrates that the word refugee is not always experienced as a neutral legal identity. Within everyday interactions, participants perceived it as a label associated with exclusion, dependency, and difference. Although Uganda's refugee policy promotes integration rather than encampment, many participants felt that identity boundaries continue to separate refugees from host communities. Similarly, another refugee participant explained:

"The host community says that refugees are rich because they receive free things like food and other support. So, they feel refugees should not be allowed to benefit from their land." (HH003/RJK, 2025).

This finding illustrates how humanitarian assistance itself may unintentionally contribute to social divisions. Refugees viewed assistance as insufficient for survival, while some host community members perceived refugees as privileged beneficiaries receiving services unavailable to local populations. These contrasting perceptions reinforce stereotypes instead of cooperation.

Host community participants also expressed concerns about environmental degradation and unequal resource use. One participant stated:

"You see, some problems come up because some refugees are cutting down trees. These are not their trees, and they did not even ask us. They just go and chop down many trees for building homes or making charcoal to sell." (HH0025/HCL, 2025; HH0029/HDRM, 2025).

This quotation reveals that forests represent much more than fuelwood. The phrase “These are not their trees” reflects claims over ownership, customary authority, identity, and territorial belonging. From the host community perspective, environmental degradation becomes intertwined with perceived disrespect for local customs and communal ownership of natural resources. Refugees, however, viewed firewood collection as an unavoidable survival strategy in settlements where alternative energy sources remain limited.

These findings strongly support Ager and Strang's (2008) Integration Framework, which argues that successful refugee integration depends upon social connections, mutual trust, shared institutions, and equal participation in community life. The Adjumani findings suggest that when trust weakens, environmental disputes become symbols of broader divisions between communities rather than isolated disagreements over resources.

The findings also agree with Vemuru et al. (2016) and Betts and Collier (2017), who found that resource competition in refugee-hosting communities can gradually undermine social cohesion unless supported by inclusive governance and shared development opportunities. However, this study contributes a richer qualitative understanding by demonstrating how mistrust is experienced in everyday language, social interaction, and perceptions of fairness.

From my perspective as the researcher, social cohesion should not be measured simply by the absence of violence. Many participants reported living peacefully beside one another while simultaneously carrying feelings of suspicion, resentment, or fear. This suggests that peaceful coexistence is fragile when communities continue to interpret one another primarily through labels such as refugee or host. Genuine social cohesion requires people to interact as neighbors, farmers, traders, parents, classmates, and community members rather than competing social categories.

4.4.2 Cultural misunderstandings, language barriers, and everyday exclusion

The findings further reveal that language differences and cultural misunderstandings contribute significantly to environmental resource conflicts. Refugees from South Sudan speak different local languages, including Dinka, Nuer, Bari, and Juba Arabic, while host communities primarily speak Ma'di and other local languages. Participants explained that misunderstandings frequently occur because conversations are interpreted incorrectly.

One female refugee explained:

“The conflict started because some refugees did not understand the language spoken by the host community. They thought the hosts were talking badly about them. This misunderstanding caused tension.” (FGD003/IJK, 2025).

Another participant added:

“Language barriers make it hard for refugees and host community members to understand each other. This sometimes leads to mistrust, misunderstandings, and even conflict.” (HH004/RCA, 2025).

These quotations demonstrate that communication itself has become an environmental peacebuilding issue. Misunderstood conversations at water points, markets, or during land negotiations easily escalate into perceptions of disrespect or hostility.

Participants also described cultural stereotypes affecting relationships. During focus group discussions (FGDs), refugee women explained:

“Some host people say, ‘How can you walk or marry these refugees when we do not know their ways?’ So, both sides stay far apart, looking at each other with deep mistrust.” (FGD005/AJA, 2025).

This finding shows that environmental conflicts intersect with questions of identity, marriage, culture, and belonging. Refugees perceived hosts as selfish or unwelcoming, while hosts perceived refugees as wasteful users of environmental resources or beneficiaries of excessive humanitarian support. Such stereotypes reduce opportunities for cooperation in natural resource management.

These findings support the work of Ager and Strang (2008), who argue that language acquisition and cultural interaction are essential foundations of integration. They also align with recent studies showing that declining humanitarian assistance and livelihood insecurity contribute to resentment and mistrust between refugees and host communities (Nanfuka et al., 2025).

As the researcher, I interpret language not simply as a communication tool but as an instrument of peacebuilding. Community dialogue conducted only in official languages may exclude women, older persons, or newly arrived refugees. Multilingual environmental awareness campaigns, mediation meetings, and community dialogues can reduce misunderstandings before they evolve into environmental conflicts.

4.4.3 Environmental resource scarcity as a protection and gender-based violence crisis

Perhaps the most emotionally significant finding of this study is the strong relationship between environmental resource scarcity and gender-based violence (GBV). Women and girls repeatedly described fear, harassment, physical assault, and sexual violence while collecting firewood and water in contested environmental spaces. Environmental degradation forced women to travel further from settlements into forests and isolated areas where protection risks increased. A refugee woman (HH001/ROP, 2025) explained: “There is a time where we refugees' women are not allowed to fetch firewood for domestic cooking while there is no alternative source of fuel we can use.”

Another participant reported:

“Women from the host community still attack us while collecting firewood.” (HH013/RMG, 2025; HH014/RJA, 2025).

A women leader further explained the dangers facing girls:

“Girls go deep into the bush and are at risk of rape. These problems were less before refugees arrived.” (KH008, 2025).

These testimonies reveal that environmental scarcity exposes women to multiple forms of violence simultaneously. Women experience physical insecurity while searching for firewood, emotional distress because of fear, and increased household pressure when they fail to return with sufficient fuel or water.

The findings also show that environmental conflict contributes indirectly to domestic violence. Participants explained that declining livelihoods, food shortages, and household stress increase tensions within families.

“Tensions within households are leading to gender-based violence.” (HH001/1DD, 2025; FGD001/1DD, 2025).

These findings mirror reports from UN Women (2022, 2023), UNHCR (2023), and Akokpari (2020) showing that environmental degradation increases protection risks for women and girls in humanitarian settings. Similarly, the Norwegian Refugee Council (2024) identifies land insecurity, environmental scarcity, and limited livelihood opportunities as interconnected protection challenges affecting displaced women.

However, the researcher emphasizes an important distinction. This study does not claim that refugees or host communities inherently cause GBV. Rather, the qualitative evidence demonstrates that resource scarcity creates conditions where women become more exposed to violence because they must travel longer distances into contested or isolated environments.

The findings also expose another limitation of Resource Scarcity Theory. The theory explains conflict over scarce resources but says little about whose bodies carry the burden of scarcity. In Adjumani, women absorb environmental shocks through unpaid labor, dangerous mobility, emotional distress, and caregiving responsibilities. This observation strengthens Feminist Political Ecology perspectives that environmental governance cannot be separated from gendered power relations (Rocheleau et al., 1996; Elmhirst, 2015).

As a researcher, I believe this finding fundamentally changes how environmental peacebuilding should be designed. A tree-planting project without women's participation may increase forest cover but fail to reduce protection risks. Likewise, a water project without women's leadership may overlook queue management, collection schedules, or safe access routes. Environmental interventions become meaningful only when they reduce both ecological degradation and women's everyday insecurity.

4.4.4 Education and youth as foundations for environmental peacebuilding

Despite the challenges identified, the findings also reveal hopeful evidence that schools and youth engagement can strengthen peaceful coexistence between refugees and host communities. Participants consistently described integrated schools, football matches, music, and youth activities as opportunities for reducing stereotypes and building friendships across communities. One key informant explained:

“Children are sent to integrated schools and youths play football together. It is helping to build unity and reduce conflicts.” (KII005, 2025).

A host community participant similarly reflected:

“My own brother plays football with refugee boys every evening. They are even learning some of each other's words. Those moments really help us see each other, not just as ‘them’ and ‘us’, but as neighbours here.” (HH0027/HA.A, 2025).

These quotations illustrate how young people often cross social boundaries more easily than adults. Shared classrooms, sports fields, and youth clubs create spaces where refugees and host community members interact outside conflict situations.

These findings support Ager and Strang (2008) and Vemuru et al. (2016), who argue that shared institutions promote trust and integration. They also align with programs implemented by the International Labor Organization (ILO) and other humanitarian actors that use vocational training, youth centers, arts, and sports to strengthen social cohesion.

Nevertheless, the findings also caution against romanticizing youth participation. Young people remain affected by unemployment, limited land access, environmental degradation, and declining livelihood opportunities. Without meaningful employment and participation, environmental frustrations may easily be transferred into social conflict.

As the researcher, I interpret youth as strategic peace actors rather than passive beneficiaries. Youth can participate in tree planting, environmental restoration, early warning systems, peace committees, climate-smart agriculture, and entrepreneurship programs. Investing in youth environmental leadership simultaneously strengthens livelihoods, protects natural resources, and reduces opportunities for intergroup conflict.

4.4.5 Critical analysis of Uganda's refugee policy framework and implementation gaps

The findings provide important insights into Uganda's internationally recognized refugee policy framework. Uganda's Refugees Act (2006), Refugee Regulations (2010), the Comprehensive Refugee Response Framework (CRRF), the Refugee and Host Population Empowerment (ReHoPE) Strategy, and the Uganda Refugee Response Plan all promote refugee self-reliance and peaceful coexistence through shared services, access to land, education, health care, and livelihoods.

Participants acknowledged that these frameworks have improved refugee protection and expanded services within settlements. However, they also identified important implementation gaps. A key informant stated:

“We have good policies, but enforcement is very weak, especially on tree-cutting and grazing boundaries.” (KII006, 2025).

Another participant observed:

“Sometimes NGOs dig boreholes in host areas but prioritize refugee access, which angers local people.” (KII003, 2025).

These findings demonstrate that policy success depends upon implementation quality rather than legislation alone. Uganda possesses one of Africa's most progressive refugee legal frameworks, yet environmental degradation, weak enforcement, limited funding, population growth, and inconsistent community participation undermine policy objectives.

The findings support Betts et al. (2019) and the World Bank (2019, 2023), who argue that refugee inclusion policies require simultaneous investments in environmental restoration, livelihood diversification, infrastructure, and inclusive governance.

From my perspective as the researcher, Uganda's refugee model should now move from integration through proximity to integration through shared environmental governance. Refugees and host communities already share land, forests, roads, schools, health facilities, and markets. The next policy priority is ensuring they also share decision-making power, environmental responsibilities, and development benefits. Peacebuilding cannot succeed if environmental management remains fragmented across humanitarian and government institutions.

4.4.5 Researcher's personal reflection on three displacement contexts: From LRA captivity to IDP Camps and Adjumani Refugee Settlements

Conducting this study in Adjumani District became much more than an academic exercise; it became a deeply personal reflection on three interconnected displacement experiences that have shaped my life and the history of Northern Uganda. As I listened to women describe walking long distances to collect firewood, struggling to access water, and fearing violence while searching for

essential environmental resources, I recognized painful similarities across three contexts: the Lord's Resistance Army (LRA) conflict, life in internally displaced persons (IDP) camps, and the current refugee settlements in Adjumani. These experiences reveal a persistent link between environmental degradation, gender inequality, and human insecurity across different forms of displacement. The first context was the IDP camps during the LRA insurgency between 2000 and 2006 in Northern Uganda. Camps such as Unyama, Pabbo, Awer, and Paicho in Gulu and Amuru districts were established to protect civilians, but the concentration of thousands of displaced people quickly exhausted surrounding forests, water sources, grazing areas, and farmland. Women and girls carried the greatest burden of collecting firewood, grass for roofing, and water outside the camps, where they faced the constant threat of abduction, sexual violence, and attacks by LRA rebels including the Boo Kec fugitives. Their daily lives became a difficult balance between searching for resources and protecting themselves from violence.

The second context was my own experience in LRA captivity between 1996 and 2001 in Aruu and Jebellen in present-day South Sudan. I witnessed extensive deforestation around LRA camps as trees disappeared for fuel, shelter construction, and survival. Women and girls performed the same demanding tasks of collecting firewood, water, and grass, often under constant surveillance and fear. Those who moved beyond designated areas risked rape, beatings, punishment, or disappearance. During this research, participants' repeated references to fear, danger, and attacks while collecting firewood echoed memories I have carried for decades, reminding me that environmental scarcity has long been intertwined with protection risks.

The third context is the present-day refugee settlements in Adjumani District. Although Uganda's refugee response is built on progressive policies that promote protection, self-reliance, and peaceful coexistence, the findings show that women continue to bear the greatest environmental burden. They still travel long distances for firewood, queue for overcrowded water sources, and face harassment, assault, and discrimination while accessing basic environmental resources. Despite the different institutional setting, women's vulnerability remains strikingly similar.

Comparing these three displacement contexts offers an important scholarly insight: displacement may change location, governance systems, and humanitarian actors, but environmental scarcity consistently produces gendered livelihood and protection challenges. At the same time, women demonstrate remarkable resilience through resource sharing, community dialogue, tree planting, savings groups, and everyday survival strategies. As both a survivor of conflict and a researcher, this study reinforced my belief that research should not only document suffering but also amplify lived experiences and inform gender-responsive, environmentally sustainable peacebuilding interventions for refugee and host communities in Northern Uganda.

5. Conclusion and Recommendations

5.1 Conclusion

This study examined the gendered socioeconomic consequences of environmental resource-related conflicts between refugees and host communities in Adjumani District, Northern Uganda. The findings show that these conflicts extend beyond competition over land, water, firewood, and grazing areas to become broader livelihood, gender, protection, and peacebuilding challenges. Environmental resource scarcity disrupts agricultural production, reduces household incomes, increases food insecurity, and weakens the resilience of both refugees and host communities. As pressure on limited natural resources continues to grow, particularly following reductions in humanitarian food assistance, competition over land and other resources has intensified socioeconomic vulnerability within refugee-hosting communities.

A key finding of the study is that environmental resource conflicts are profoundly gendered. Women bear the greatest burden because they are primarily responsible for collecting water, firewood, grass, and other household resources. Environmental degradation increases their unpaid labour, limits opportunities for education and income-generating activities, and exposes them to harassment, sexual violence, and emotional insecurity while accessing essential resources. These findings demonstrate that environmental conflicts cannot be understood through a gender-neutral lens but require gender-responsive approaches that recognise women lived experiences, leadership, and protection needs.

The study also reveals that resource-related conflicts gradually erode trust and peaceful coexistence between refugees and host communities through discrimination, stereotypes, language misunderstandings, and perceptions of unequal access to resources and humanitarian assistance. However, integrated schools, youth engagement, community dialogue, shared environmental initiatives, and inclusive livelihood programmes emerged as important opportunities for rebuilding social cohesion and strengthening peaceful relationships. Although Uganda's refugee policy framework provides a strong foundation for refugee protection and integration, implementation challenges related to environmental sustainability, natural resource governance, funding limitations, and community participation continue to undermine its objectives. Overall, this study concludes that environmental resource conflicts in Adjumani District should be understood as interconnected crises of livelihood security, gender equality, human protection, environmental sustainability, and peacebuilding. Sustainable solutions therefore require integrated, gender-responsive, and community-centred approaches that recognise refugees and host communities as shared environmental stakeholders working towards resilience and lasting peaceful coexistence.

5.2 Recommendations for practical, Policy, Theoretical, and Future research implications

5.2.1 Practical implications

The findings of this study highlight the need for practical, community-centred interventions to reduce environmental resource conflicts in Adjumani District.

First, government and humanitarian actors should strengthen community-based natural resource management through joint environmental committees that actively involve refugees, host communities, women, youth, traditional leaders, and local government officials in decision-making.

Second, investments in alternative household energy sources, including community woodlots, tree nurseries, briquettes, solar energy, and energy-saving cooking stoves, should be expanded to reduce dependence on natural forests while promoting shared environmental ownership and peaceful coexistence.

Third, livelihood diversification programmes should prioritise women and youth from both refugee and host communities through climate-smart agriculture, vocational skills training, savings groups, small businesses, and environmentally sustainable income-generating activities. These initiatives can strengthen household resilience and reduce pressure on scarce natural resources. Fourth, environmental programmes should integrate protection measures for women and girls by promoting safe firewood collection routes, community patrols, protection monitoring, awareness campaigns, and gender-responsive reporting mechanisms. Finally, continuous community dialogue, cultural exchange activities, integrated sports programmes, environmental restoration campaigns, and joint peacebuilding forums should be strengthened to build trust, improve social cohesion, and foster sustainable peaceful coexistence between refugees and host communities.

5.2.2 Policy implications

The study also provides important policy implications for Uganda's refugee governance framework. The Office of the Prime Minister (OPM), district local governments, UNHCR, and humanitarian partners like LWF, DRC, and others should strengthen implementation of the Refugees Act (2006), Refugee Regulations (2010), the Comprehensive Refugee Response Framework, the ReHoPE Strategy, and the Uganda Refugee Response Plan (URRP) by placing greater emphasis on environmental sustainability within refugee self-reliance programming.

Environmental restoration should become a core component of refugee settlement planning rather than an additional environmental activity. Refugee response plans should allocate sufficient resources for afforestation, watershed protection, soil conservation, and sustainable fuelwood production in both refugee settlements and neighbouring host communities.

Policies should also institutionalise meaningful participation of women in environmental governance and conflict resolution structures. Women should be represented in land management committees, water user committees, environmental committees, peace committees, and refugee welfare structures because they possess practical knowledge of environmental resource use and household survival.

In addition, government and humanitarian actors should adopt conflict-sensitive environmental programming guided by the Do No Harm principle. Environmental projects should be evaluated not only according to physical outputs such as the number of trees planted or boreholes constructed but also according to whether they strengthen trust, reduce perceptions of inequality, and improve relationships between refugees and host communities.

5.2.3 Theoretical implications: Towards the Gendered Environmental Livelihood Security Theory (GELST)

This study makes an important theoretical contribution by identifying limitations within Homer-Dixon's Resource Scarcity Theory. While the theory successfully explains how environmental scarcity contributes to competition and conflict, it pays limited attention to how scarcity is experienced differently across gender, social roles, displacement status, and power relations. Communities are largely treated as homogeneous actors despite substantial differences in vulnerability and access to environmental resources.

The findings strongly support insights from Feminist Political Ecology, which argues that environmental governance is shaped by gendered divisions of labor, unequal access to resources, and social power structures (Rocheleau et al., 1996; Elmhirst, 2015). However, this study extends these perspectives by proposing a complementary framework referred to as the Gendered Environmental Livelihood Security Theory (GELST).

GELST argues that environmental resource scarcity affects displaced populations through four interconnected pathways. First, environmental scarcity disrupts livelihood security by reducing access to productive resources. Second, livelihood insecurity increases protection risks, particularly for women and girls responsible for collecting environmental resources. Third, unequal gender roles determine who carries the physical and emotional burden of environmental scarcity. Fourth, inclusive environmental governance and social cohesion strengthen resilience by reducing conflict and improving equitable access to environmental resources.

The proposed framework therefore integrates environmental security, gender justice, livelihood resilience, and peacebuilding within refugee-hosting settings. It provides a context-specific analytical lens for understanding environmental conflicts in humanitarian settings where displacement, gender inequality, and environmental degradation interact simultaneously.

5.2.4 Future Research implications

This study identifies several priorities for future research on environmental resource conflicts in refugee-hosting communities.

Longitudinal studies are needed to examine how these conflicts evolve over time as refugee settlements become more permanent and humanitarian assistance changes.

Comparative qualitative research across districts such as Adjumani, Yumbe, Lamwo, Kiryandongo, and Isingiro can provide insights into how environmental governance and conflict dynamics vary across Uganda.

Future studies should also explore women's coping strategies, indigenous environmental knowledge, and leadership in environmental conservation, peacebuilding, and climate adaptation.

Finally, interdisciplinary research integrating peace and conflict studies, gender, environmental governance, public health, and climate adaptation is essential for informing evidence-based policies and sustainable humanitarian programming in Uganda and the wider East African region.

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Researchers Contribution

Researcher: Okello Moses Rubangangeyo: Conceptualization, data collection, analysis, interpretation, and manuscript drafting.
Co-researchers: Ms. Acio Esther and Dr. Stella Laloyo Apecu: Supervision, theoretical guidance, review, and academic mentorship.

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Ethical Considerations

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