



How does climate exacerbate root causes of conflict in Uganda?

An impact pathway analysis

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This factsheet gives answers on how climate exacerbates root causes of conflict in Uganda, using an impact pathway analysis. Two main impact pathways are identified:

- 1. Resource availability and access in Kasese:** Disputes over land ownership between the Bakonzo farmers and the Basongora pastoralists are likely to increase due to projected increases in temperatures and flood events that will impact the availability of natural resources and exacerbate existing socio-economic and political vulnerabilities;
- 2. Livelihood and food insecurity in Karamoja:** Climate impacts, along with other vulnerabilities and risks, are likely to contribute to worsening livelihood and food insecurity, as well as other emergent security risks including thefts by *lonetia*, intercommunal as well as intrafamilial conflict involving sexual and gender-based violence.

This publication is part of a factsheet series reporting on the findings of the CGIAR FOCUS Climate Security Observatory work in Africa (Kenya, Mali, Nigeria, Senegal, Sudan, Uganda, Zimbabwe). The research is centered around 5 questions*:

1 How does climate exacerbate root causes of conflict?

Impact pathways

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Econometric analysis

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2 Where are the climate insecurities hotspots?

Spatial analysis

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3 What is the underlying structure of the climate, conflict, and socio-economic system?

Network analysis

[Kenya](#) [Mali](#) [Nigeria](#) [Senegal](#) [Sudan](#) [Uganda](#) [Zimbabwe](#)

4 Are climate and security policies coherent and integrated?

[Policy coherence analysis](#)

5 Are policy makers aware of the climate security nexus?

Social media analysis

[Kenya](#) [Mali](#) [Nigeria](#) [Senegal](#) [Sudan](#) [Uganda](#) [Zimbabwe](#)



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* Questions 1, 2, 3, 5 are analyzed at country level through a Climate Risk Lens (impact pathways, economic, spatial, network and social media analyses). The policy coherence and scopus analyses are at continental level.

**Scopus is one of the largest curated abstract and citation databases, with a wide global and regional coverage of scientific journals, conference proceedings, and books. We used Scopus data for analyzing: (1) how global climate research addresses the dynamics between climate, socio-economic factors, and conflict, and (2) how the countries studied are represented in the database.

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PATHWAY#1:

Resource availability and access in Kasese

Kasese is a district in Western Uganda that is particularly vulnerable to climate change and variability, and suffers from food insecurity, high population growth as well as ethnic and political conflicts. Tensions have escalated in recent years with an increasing number of clashes between the different communities as well as a growing confrontation between the Bakonzo people and the government. This includes conflicts over land and water use and access which are intertwined with existing socio-political grievances as livelihoods and ethnicities are closely related. Disputes over land ownership between the Bakonzo farmers and the Basongora pastoralists are likely to increase due to projected increases in temperatures and flood events that will impact the availability of natural resources and exacerbate existing socio-economic and political vulnerabilities.

PATHWAY#2:

Livelihood and food insecurity in Karamoja

Karamoja is a semi-arid region located in northeastern Uganda, bordering Kenya. The region faces challenges related to post-conflict economic recovery and recurrent conflict risks while also dealing with an increasing climate variability that manifests through rises in temperatures and precipitation variability. The effects of climate are likely to affect crop production, contributing to the deterioration of people's livelihood which are also being curtailed by the lack of well-defined land rights, the expansion of agricultural land as well as cross-border resource conflicts between pastoralist groups near the border. In this context, climate impacts, along with other vulnerabilities and risks, are likely to contribute to worsening livelihood and food insecurity, as well as other emergent security risks including thefts by *lonetia*, intercommunal as well as intrafamilial conflict involving sexual and gender-based violence.

1. OBJECTIVE AND RESEARCH QUESTIONS

The Impact Pathway Analysis (IPA) aims to identify, describe, and represent the complex and non-linear interactions between climate, conflict, and existing vulnerabilities and risks with a special focus on food, land, and water systems. In particular, the IPA intends to address the following questions:

- What are the potential climate security pathways through which climate may act as a threat multiplier?
- Which specific vulnerabilities and risks, that are at the heart of insecurity and conflict, may be exacerbated by the climate crisis?
- How can dimensions such as natural resources, livelihoods, mobility, governance and food, land, and water systems, inform climate security pathways in specific contexts?

2. METHODS AND DATA

The IPA follows a systematic literature search and review to find, collate, analyze and synthesize insights from relevant knowledge products, including reports, policy briefs, fact sheets from grey literature, as well as books, journal articles, and other sources of documented evidence in academic literature and public media. The construction of a narrative is then followed by consultation with a designated set of experts and stakeholders through interviews and written feedback to gather evaluation and incorporate suggested revisions.

3. RESULTS

3.1 Climate exposure and vulnerability

Uganda is a landlocked country that faces a high exposure to ecological threats (Institute for Economics & Peace 2020) and is highly vulnerable to climate disruptions while having a low level of readiness (University of Notre Dame 2019). Since 1960 average annual temperatures in Uganda have incremented by 1.3°C while seasonal precipitations have decreased, and rainfall variability has increased. Estimates stress that temperatures will increase between 2 and 2.5°C during the next 50 years and between 2.5 and 4.5 in the following 80 years. Total annual rainfall is also projected to decrease in most of the country (Ministry of Water and Environment 2015c). The country suffers from an increasing number of extreme weather events, including floods, droughts and landslides which are also becoming more intense (Ministry of Water and Environment 2015c).

The climate crisis will heavily impact the Ugandan economy and society as it is highly dependent on several climate-sensitive sectors such as agriculture, livestock, fisheries and tourism (Ministry of Water and Environment 2015a; 2015b; Hepworth and Goulden 2008; The World Bank Group 2021). Agriculture alone is the most important economic sector, employing 72% of the workforce, representing 50% of the total exports and accounting – along with fisheries and forestry – for 24% of the gross domestic product (GDP) (The World Bank 2021b; 2021a; Ministry of Foreign Affairs of the Netherlands 2018). The Ugandan agricultural sector is particularly vulnerable considering that it is mainly composed of small-scale subsistence farming and highly dependent on rainfed agriculture (CIAT and BFS/USAID 2017). The changing climate is projected to reduce agricultural land, diminish growing seasons, dwindle crop production and productivity while also incrementing soil erosion, lowering water resources and changing the distribution and incidence of pests (The World Bank Group 2021; Ministry of Foreign Affairs of the Netherlands 2018). For instance, the production of coffee, one of the main cash crops and

exports, is expected to diminish by 50-75% because of the decreasing yields and the loss of suitable land (Ministry of Water and Environment 2015c; Jassogne et al. 2013). This is particularly worrisome considering that 90% of the coffee is produced by smallholder farmers which rely on it for generating income (Jassogne et al. 2013). The different challenges faced by farmers are likely to have severe consequences in food security (Ministry of Foreign Affairs of the Netherlands 2018; Hepworth and Goulden 2008).

3.2 Socio-economic and political insecurity

Since achieving its independence in 1962, Uganda has experienced decades of civil war, armed insurgencies, ethnic conflicts and violent transitions of power (Nyombi and Kaddu 2015; Quinn 2004). The most recent war against the Lord Resistance Army (LRA) which came to an end in 2006 after the armed group was expelled from Uganda (Bunting 2017). However, it left the country with a challenging post-conflict reconstruction and reconciliation. Despite the end of the war and the high rates of economic growth, the country faces many socio-economic vulnerabilities and security risks that could deepen insecurity and even lead to conflict. Uganda has 21% of its population living below the national poverty line (Mejia-Mantilla 2020). Weak natural resource governance is still a major handicap for poverty alleviation efforts, increases in agricultural productivity and efforts to support rural livelihoods. Considering also the potential adverse effects of climate change and variability as well as the existing environmental degradation, progress in natural resource governance is still needed to enhance a sustainable development that grants prosperity to the people while adequately managing natural resources and mitigating the effects of the climate crisis (Mugenyi et al. 2011). At the same time, Uganda has one of the highest population growths in the world while being the largest host of refugees in Africa with nearly 1.5 million refugees which, without a good natural resource governance, can put a strain to natural resources and lead to competition over resources between refugees and host communities like it happened in Bidibidi refugee settlement in Northern Uganda (Dawa 2019; UNHCR 2021).

3.3 Climate security pathways

These socio-economic and political vulnerabilities and risks are likely to be exacerbated by the climate crisis through multiple pathways, potentially aggravating instability and insecurity in the country (Figure 1).

PATHWAY #1: Resource availability and access in Kasese

Political vulnerabilities

Kasese is a district in Western Uganda, based at the foothills of the Rwenzori mountains, that is particularly vulnerable to climate change and variability, and characterized by important socio-economic and political vulnerabilities. Kasese has suffered from ethnic and political conflicts, reason why it has been considered as a conflict hotspot in Uganda by USAID (2014b). Since the late 19th century there have been disputes between the Batoro, Bakonzo, Bamba and Basongora communities with confronting demands for autonomy within the British empire first and within the Ugandan state later (Sseremba 2020). Tensions have escalated in recent years with an increasing number of clashes between the different communities as well as a growing confrontation between the Bakonzo people and the government which have left a death toll of more than 100 civilians (Reuss and Titeca 2016; Titeca and Vlassenroot 2012; HRW 2018; Sseremba 2020).

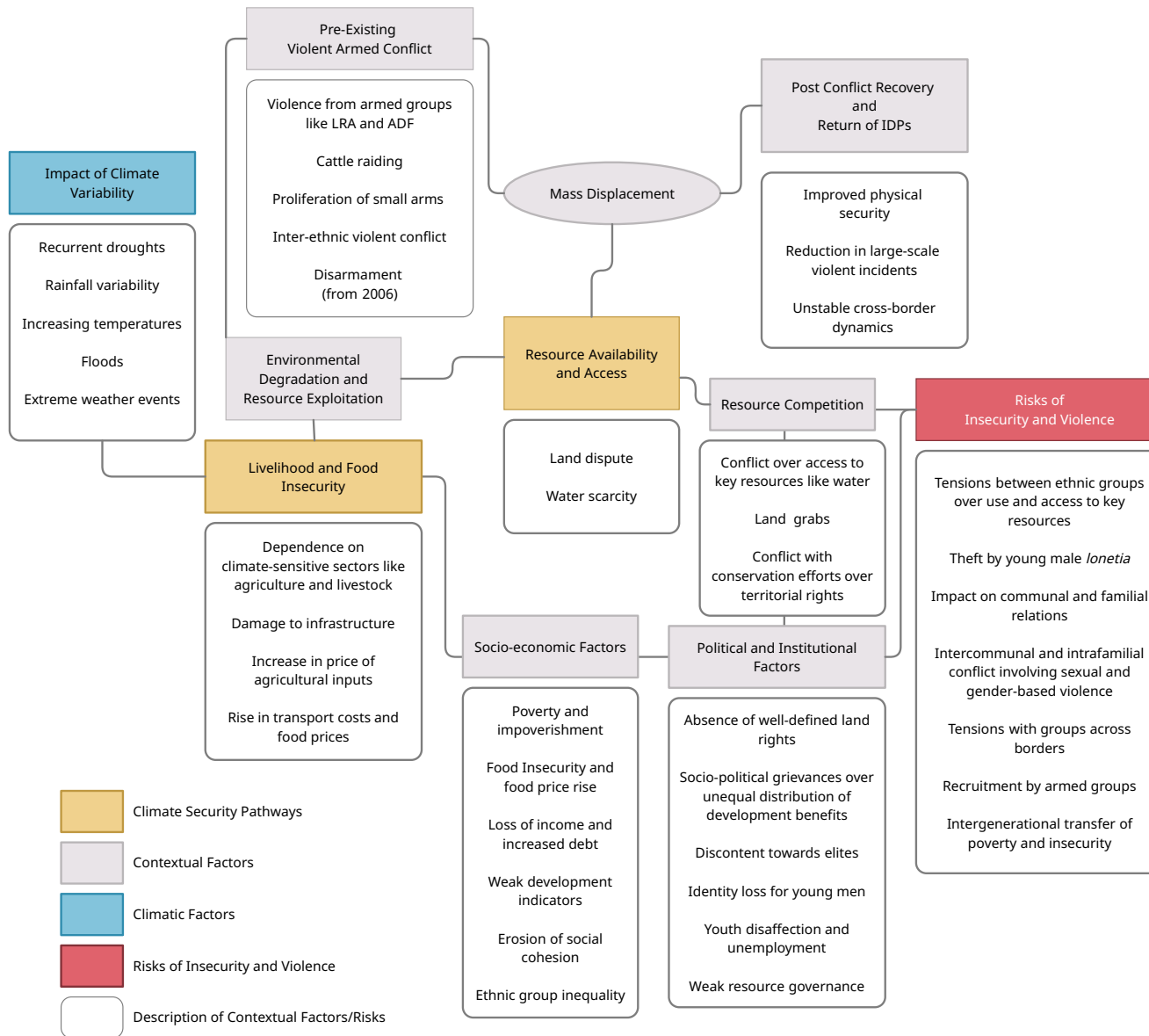


Figure 1: Climate Security Pathways for Uganda

Socio-economic vulnerabilities

The district of Kasese also suffers from a series of socio-economic vulnerabilities. The capital of the district – also named Kasese – is one of the urban areas with the highest food insecurity rates in Uganda with nearly one out of three people struggling daily to find nutritious food. There has been a recent increase in food insecurity attributed to the negative impact of the COVID-19 pandemic and the related restrictions on livelihoods (IPC 2020). Illiteracy, which tends to hinder health, participation in the labour market and poverty reduction, is considerable in Kasese with 32.1% of the population aged 18 and above who are illiterate, a figure that notably increases when focusing only on females (Uganda Bureau of Statistics 2017).

Land is the most relevant productive asset in Kasese and it plays a crucial role in generating income as well as employment opportunities (Renno et al. 2012). The 70.7% of the households rely on subsistence farming as the main source of livelihood (Uganda Bureau of Statistics 2017). However, only 37% of the territory is available for farming and settlement with more than half of the territory occupied by conservation areas – Queen Elizabeth National Park and Rwenzori National Park – as well as water bodies, prison farms, mining and irrigation schemes (Renno et al. 2012). On the other hand, Kasese is the fifth most populated district in Uganda. Its population has been increasing at a 2,45% rate between 2002 and 2014 reaching a population density of 248.0/km² – which should double if excluding the territory devoted to conservation – in 2014 which is above the national average 174/ km² (Uganda Bureau of Statistics 2014). The current demographic dynamic shows an increasing young bulge which will become substantial considering that now 56% of the population is aged 17 or below (Uganda Bureau of Statistics 2017). These factors altogether need to be considered to avoid a potential increase in overexploitation of resources and the land degradation that could eventually reduce the quality and availability of the most relevant productive asset in Kasese (Renno et al. 2012).

The variability of climate and recurrent extreme weather events such as floods and heavy rainfalls are negatively impacting land, water, and food systems in Kasese while having an overall adverse effect on the economy and society by destroying infrastructure and undermining people's health (CANUNews 2021; The World Bank Group 2021; Ministry of Water and Environment 2015a). The destruction of infrastructure increases the transport costs of commodities, disrupting the food value chain and undermining the access to markets which reduces farmers' income. This, in turn, increases the price of agricultural inputs such as fertilizers and improved seeds, that are key to improve agricultural productivity and enhance climate resilience. The increase in transport costs because of the destruction of infrastructure also increases food prices which has a direct impact on food security (USAID 2014a).

Conflicts over land use and access in Kasese have been extensively reported (Ahimbisibwe et al. 2016; Harris 2008; CDRN and KRC 2020; Renno et al. 2012; Reuss and Titeca 2016). Some studies highlight a recent rise in land disputes and foresee a further increase as population continues growing and more young workers enter the job market (Renno et al. 2012). However, it is important to note that the competition over land and water resources is intertwined with existing socio-political grievances. Livelihoods and ethnicities are closely related (Harris 2008). The Bakonzo, largest ethnic group in

the district, are mainly dedicated to agriculture while the Basongora mainly rely on livestock (Harris 2008; Reuss and Titeca 2016; CDRN and KRC 2020). The Basongora people feel marginalized and oppressed by the Bakonzo majority while these consider that the Basongora are largely benefiting from development projects and land distribution administered by the central government. There are disputes over land ownership due to unclear land titles, aggravated by the lack of land in a district where conservation areas occupy more than half of the territory (Reuss and Titeca 2016). These series of vulnerabilities and grievances have led to violence between both ethnic groups, including the killing and injury of people, attacks on livestock and the burning of houses (USAID 2014b; The Independent 2020).

The climate crisis is projected to have a considerable impact on agricultural production in Kasese, particularly affecting coffee which is a highly climate-sensitive crop. Coffee is a very popular crop in the region, accounting for 44% of the total farm production of the most vulnerable farmers. It generates 80% of the total agricultural income and 46% of total household income (Caffrey et al. 2013). Hence, without the appropriate actions projected climate disruptions may undermine coffee production, curtailing a key income generating activity that is essential for ensuring food security (Caffrey et al. 2013). Climate adaptation practices such as coffee-banana intercropping have proven to be a great strategy to increase resilience to drought and extreme weather events while also bolstering food security and enhance coffee production and quality (van Asten et al. 2015).

Tensions between communities also exist over the access to water resources. Water scarcity is a crucial issue in Kasese where only 40% of its population has access to safe and clean water. In some communities near Lake Katwe the percentage drops to 7% (Harris 2008). Water scarcity often leads to disputes between the communities of Mahango and Rukoki sub-counties. The competition becomes worse during the dry season when springs and rivers have less water. The climate crisis is estimated to adversely impact water availability, potentially exacerbating existing tensions between communities – such as those from Mahango and Rukoki sub-counties – and increase violent disputes (Harris 2008).

Climate variability and extremes have the potential to exacerbate existing tensions and vulnerabilities, including food insecurity, water scarcity, disputes over the access and use of land, and socio-political inequalities. Some of these phenomena are projected to increase in number and intensity. For instance, estimates show that temperatures in Kasese will increase more than the 1.86°C national average by 2050 in most of the department (CIAT and BFS/USAID 2017). Floods, which have been identified as one of the most important and destructive hazards in Kasese, are likely to increase in the future due to increased intensity of rainfall (Ahimbisibwe et al. 2016; The World Bank Group 2021). These climate stressors have the potential to compound existing risks that lay at the heart of the conflicts over the access and use of water and land resources between different communities in Kasese, increasing the competition over scarcer resources. For this reason, the government of Kasese has recently presented a five years Local Action Plan that aims to address current and potential conflict elements such as land disputes, ethnic and cultural matters, gender-based violence (GBV), women's participation in peacebuilding processes as well as environmental disasters and climate change (Sam 2021).

PATHWAY #2: Livelihood and food insecurity in Karamoja

Studied as a “post-conflict” context to understand linkages between climate variability, violent conflict, and human security (Jensen et al. 2020), the semi-arid Karamoja region in northeastern Uganda faces challenges related to post-conflict economic recovery and recurrent conflict risks. Further, Karamoja is seen as a case where impact of conflict may manifest through increasing climate vulnerability, and impact of climate may lead to higher risk of conflict through reduced adaptive capacity, culminating in a feedback loop of climate-conflict vulnerabilities (Chaplin et al. 2017). This allows for a move beyond seeking direct causal relationship between climate and conflict variables, to frame climate-conflict nexus as a reinforcing cycle (Abrahams 2020).

Karamoja is characterized by increasing temperatures and rainfall variability. It is also identified as a highly food insecure and impoverished region, with poor development indicators, including one of the highest rates of multidimensional poverty (76%, higher than the national average) (Chaplin et al. 2017, UNICEF 2020). Being heavily dependent on rainfed agriculture, climate-related shocks due to uneven and unimodal rainfall in the region can adversely affect crop production. This has made pastoralism and agropastoralism the dominant livelihoods of Karamoja. The region is further characterized by a history of violent conflict between ethnic pastoralist groups engaging in incidents of cattle raiding. Proliferation of small arms served as a key factor for intensification of violence, which, together with shocks from disease and drought, seriously undermined traditional governance systems (Bevan 2008, Eaton 2007, 2008, Mkutu 2010).

Although the most recent disarmament program by the government (since 2006) has improved physical security in the region through reduction in the severity of violent incidents, new security risks are being observed in this relatively “stable” context, mostly at the level of villages and households, and associated with livelihood changes following the disarmament (Stites and Akabwai 2009). Instead of inter-ethnic violence and large-scale cattle raids, conflict risks in Karamoja are now found to pivot around land. As articulated in Abrahams (2020), the term “land conflict” is used to signify “conflicts that take shape around land use, land rights, and land access” (p. 5). In the absence of robust well-defined land rights, there is discontent towards privileged elites, who are perceived to participate in land grabs. Beyond the dynamics of land grabbing, land use changes bringing more land under agriculture, have seriously impacted pastoral livelihoods by limiting mobility and livestock productivity. The resulting pressure on land and the question of access to key resources like water and pasture inform risks of localized conflict and violence, including cross-border resource conflicts between pastoral groups such as the Karenga and Toposa of South Sudan, Turkana of Kenya, the Dodoth of Uganda. Other key actors in this scenario may include farmers and state authorities.

Theft by young male *lonetia* (thugs) is identified as another security concern in Karamoja (Howe et al. 2015), fueled by socio-economic and political factors such as livelihood and food insecurity, loss of income and loss of identity for youth. Furthermore, intra-familial violence, including sexual and gender-based violence has been identified as another emerging security concern. Indirect linkages with climate impacts can be traced through effects of unpredictable rainfall on familial and communal relations via a possible mechanism where dots are connected by insecure livelihoods, identity loss, higher rates of alcoholism, increased debt, theft, and therefore intra-household conflict (see Abrahams 2020).

Risks of conflict and violence in the region can further affect decision making with regards to livestock and cropping. For northern Uganda, it has been found that households may respond to risks of insecurity and violence by changing their portfolios. For example, in rural areas with limited options for livelihood diversification, households may still engage in agriculture, but shift towards crops and activities with lower risks and returns. Similarly for livestock, instead of large grazing herds that may increase the likelihood of being targeted, households may opt for smaller livestock with lower value that can be contained within compounds. This can then feed a vicious cycle of insecurity for people in this conflict-affected region, as lower returns from markets (which stop operating during conflicts) may accompany lower investments in productive assets and activities in the long run (Rockmore 2020). And while this might mean people are able to save some capital as buffer against risk of violence and to use in case of migration, this can have far reaching impacts for food insecurity through decreased dietary diversity as well as poor nutritional and health outcomes for inhabitants of this region. Such a situation may thus ultimately result in a self-reinforcing loop, keeping people trapped through intergenerational transmission of poverty and insecurity.

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About CGIAR FOCUS Climate Security

CGIAR aims to address gaps in knowledge about climate change and food security for peace and security policies and operations through a unique multidisciplinary approach. Our main objective is to align evidence from the realms of climate, land, and food systems science with peacebuilding efforts already underway that address conflict through evidence-based environmental, political, and socio-economic solutions.