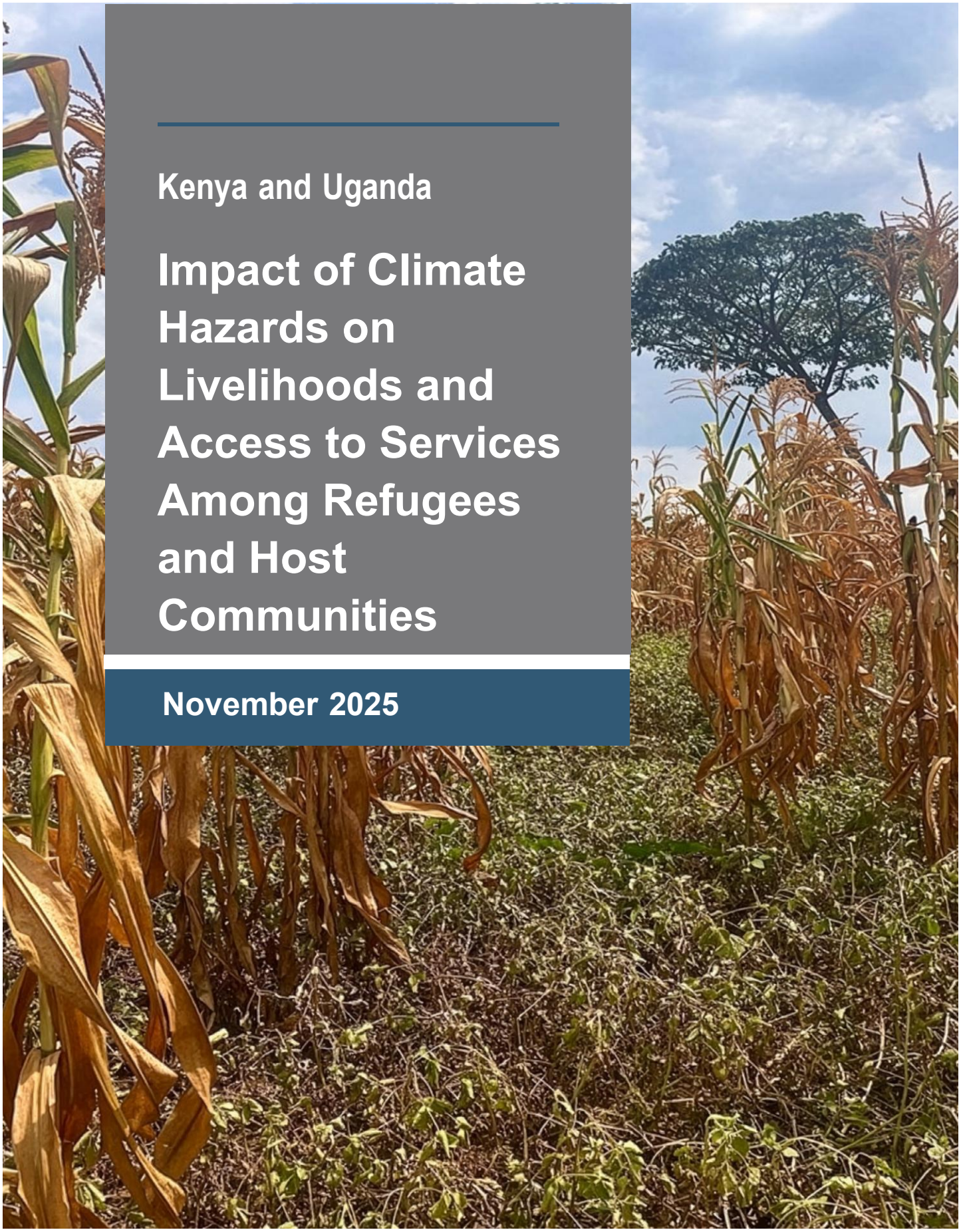

Kenya and Uganda

Impact of Climate Hazards on Livelihoods and Access to Services Among Refugees and Host Communities

November 2025

UK International Development
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About IMPACT

IMPACT Initiatives is a nongovernmental organisation (NGO) established in 2010 and based in Geneva. It is the largest independent data provider in crisis contexts. It advocates for the development of research that is centred around people in contexts ranging from conflict and disasters to regions affected by displacement and migration. The work of IMPACT Initiatives is carried out through its two initiatives REACH and AGORA, and through the provision of direct support to partners regarding Project Appraisals and Assessments (PANDA). IMPACT Initiatives is a sister organisation of ACTED, a non-governmental organisation with headquarters in Paris.
For more information regarding IMPACT Initiatives' work in Uganda, Kenya and elsewhere, see the Resource Centre | IMPACT.

FCDO

This material has been funded by the Evidence Fund programme; however, the views expressed do not necessarily reflect the UK government's official policies.

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EXECUTIVE SUMMARY

IMPACT conducted a qualitative assessment to explore the impact of climate hazards on livelihoods among refugee and host communities in Uganda, specifically in Kampala City (Central Region), Rwamwanja settlement in Kamwenge District (South Western Region) and Nyumanzi Settlement in Adjumani District (Northern/West Nile Region), and Kenya, covering Kibera in Nairobi County, Kakuma Camp and its surrounding host communities in Turkana County, and Dadaab Camp and its surrounding host communities in Garissa County. Data collection was conducted from 4 to 27 March 2025, encompassing 67 Key Informant Interviews (KIIs) with Persons with Disabilities (PwDs), local government representatives, local organisation representatives, community leaders, health and education sector representatives, as well as 48 Participatory Workshops (PWs) with randomly selected community members across host and refugee settings. The study examined how climate-related hazards affect income generation, productivity, and unpaid household labour in diverse environmental contexts hosting significant refugee populations.

Three primary climate hazards - **extreme heat, drought and water scarcity, heavy rainfall and flooding -** were predetermined areas of focus for this assessment, based on existing evidence**.** A fourth hazard**, strong winds,** emerged indicatively from this assessment. All four hazards were commonly reported in both Uganda and Kenya and are becoming increasingly intense and unpredictable. These identified hazards **severely disrupt agricultural production, small-scale enterprises, and casual labour opportunities across both Uganda and Kenya forcing communities to adopt harmful coping strategies,** including **child labour, early marriage, sexual exploitation, and risky and/or illegal activities**.

Across both Uganda and Kenya, the **interplay between climate shocks and existing vulnerabilities,** such as poverty, gender roles, and disability, intensifies the impact on livelihoods and unpaid labour. **Women, persons with disabilities, and children bear disproportionate impacts** due to gendered responsibilities, mobility constraints, and limited adaptive capacity. While government and development actors provide various support interventions, including climate-smart agriculture, vocational training, and infrastructure improvements, adaptation strategies are often temporary or insufficient in the face of repeated hazards.

Moving forward, more targeted support systems are needed in both Uganda and Kenya to address chronic vulnerabilities, including **adaptive infrastructure, livelihood diversification, early warning systems, and formalised community managed structures** such as community halls or climate-resilient multi-purpose community centres that primarily host cultural events (e.g., dances, community meetings, and social gatherings) designed to withstand floods/heavy rain, extreme heat and strong winds, allowing them to serve as safe gathering points during and after extreme climatic events. **Targeted training and capacity-building initiatives/programs,** such as trainings on drought resistant agriculture for farmers and **climate-informed planning** at the local level, should be strengthened to better equip vulnerable communities against recurring climate threats.

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List of Acronyms

ABACBA	Area Based Assessment for Climate Based Adaptation
DRS	Department of Refugee Services
DSAG	Data Saturation and Analysis Grid
FGD	Focus Group Discussion
FCDO	Foreign Commonwealth and Development Office
GHG	Green House Gas
IDP	Internally Displaced Persons
IPCC	Intergovernmental Panel on Climate Change
KII	Key Informant Interview
LC	Local Council
MSNA	Multi Sectoral Needs Assessment
ND-GAIN	Notre Dame Global Adaptation Initiative
NGOs	Non-Governmental Organisations
OPM	Office of the Prime Minister
PW	Participatory Workshops
PwD	Persons with Disability
RDO	Refugee Desk Officer's Office
RWC	Refugee Welfare Council
SC	Seasonal Calendar
SFO	Senior Field Officer
UK	United Kingdom
UNHCR	United Nations High Commissioner for Refugees
UNMA	Uganda National Metrological Authority
VSLA	Village Savings and Loans Association
WASH	Water, Sanitation and Hygiene

Geographical Classifications

Uganda

Region

Uganda is officially divided into four regions: the Northern, Central, Eastern, and Western regions. However, for practical purposes, unofficial regional distinctions are also commonly used, such as West Nile in the northwestern part of the country and Southwest near the borders with Rwanda and the DRC.

District

A district is the highest local government administrative unit in Uganda. It is responsible for governance, public services, and development within its boundaries. Uganda is divided into 146 districts.

County

A county is a subdivision of a district, mainly used for electoral and administrative purposes. However, counties do not function as independent administrative units - they serve as groupings of sub-counties. Sub-counties are further divided into parishes and villages.

Settlement

Refugee settlements are not officially classified as administrative units in Uganda's government structure. However, they function as distinct humanitarian governance units under the management of Uganda's Office of the Prime Minister (OPM) and the United Nations High Commissioner for Refugees (UNHCR). Settlements are further divided into zones, which are then divided into blocks.

Kenya

County

Counties are the highest devolved administrative unit in Kenya under the 2010 Constitution. There are 47 counties, each governed by a County Government responsible for service delivery, development planning, and local legislation. Counties are the main units for decentralization and implementation of development and implementation of policies, including refugee-hosting strategies

Settlement/Camp

Kakuma Camp (Turkana County) and Dadaab Camp (Garissa County) in Kenya are recognized as humanitarian governance zones and function under the management of the Department of Refugee Services (DRS), a government agency under the Ministry of Interior, and the United Nations High Commissioner for Refugees (UNHCR). While the camps exist within these counties, they operate semi-independently through coordination mechanisms between the DRS, UNHCR, NGOs, and County Governments.

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1. INTRODUCTION

1.1 Ugandan Context

Despite Africa's minimal contribution to global greenhouse gas (GHG) emissions, Uganda remains highly vulnerable to climate change.[1,2] The Notre Dame Global Adaptation Initiative (ND-GAIN) ranked Uganda as the 14th most vulnerable country and one of the least prepared (163rd out of 182) to respond to climate-related challenges.[3] Uganda's vulnerability is heightened by widespread poverty and a strong reliance on climate-sensitive sectors, including agriculture, water, fisheries, tourism, and forestry.[4]

Uganda is the largest refugee-hosting country in Africa, hosting approximately 1.97 million refugees as of November 2025. The majority originate from South Sudan (52%) and the Democratic Republic of Congo (33%).[5] Most refugees (91%) live in 13 settlements across 12 refugee-hosting districts alongside the host communities, while about one tenth (9%) reside in urban areas mainly around Kampala, Wakiso and Mukono Districts.[6]

Kampala District hosts over 150,000 refugees and asylum seekers from Eritrea, Somalia, DRC and Ethiopia.[7] The Uganda 2024 Multi-Sector Needs Assessment (MSNA)[8] conducted by IMPACT-REACH found that 46% of the households in the capital were engaging in informal economic activities such as petty trade and casual labour, and 50% engaging in small-scale entrepreneurship to make ends meet.[9] These livelihoods often lack stability and protection, especially in informal settlements that are highly exposed to flooding and lack basic infrastructure.

Nyumanzi Settlement, located in Adjumani District, is home to over 47,000 refugees primarily from South Sudan.[10] Flooding in Nyumanzi Settlement fluctuated significantly over the assessed five-year period, with the most severe event in 2022 affecting approximately 23% of the land and an estimated 19,000 individuals from both refugee and host communities.[11] The Uganda 2024 MSNA found that small-scale agriculture and livestock rearing are the primary livelihood activities in and around Adjumani settlement, the overarching settlement to which Nyumanzi belongs, with 77% of the host community and 34% of the refugee community engaged in these activities. Petty trade and casual labour are also significant sources of income, involving 58% of the host community and 37% of the refugee community.[12] However, unpredictable weather and poor infrastructure continue to undermine productivity and access to markets.

Rwamwanja settlement is home to over 100,000 refugees and asylum seekers as of May 2025, of whom 99% are Congolese.[13] The Uganda 2024 MSNA found that 80% of host community households and 43% of refugee households rely on agriculture, with 66% of refugee households reporting casual

[1] Our World in Data, Uganda: CO2 Country Profile, 2023.
[2] IPCC, Climate Change 2022 – Impacts, Adaptation and Vulnerability: Working Group II Contribution to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change, June 2023.
[3] ND-GAIN, Uganda, 2021.
[4] World Bank Group, Climate Risk Country Profile – Uganda, May 2021.
[5] UNHCR, Uganda Comprehensive Refugee Response Portal, last consulted on 30 November 2025.
[6] OPM, Refugee management, n.d., last consulted on 30 November 2025.
[7] UNHCR, Uganda - Refugee Statistics November 2025 - Settlement Profiles, November 2025.
[8] IMPACT Initiatives (REACH Initiative), MSNA Report, 2024.
[9] IMPACT Initiatives (REACH Initiative), MSNA Clean Dataset and Quantitative Analysis, 2024.
[10] UNHCR, Uganda - Refugee Statistics May 2025 - Settlement Profiles, May 2025.
[11] IMPACT Initiatives, UGA Remote Sensing Report Climate ABA in Nyumanzi , April 2025.
[12] IMPACT Initiatives (REACH Initiative), MSNA Clean Dataset and Quantitative Analysis, 2024.
[13] UNHCR, Map - Refugees and Asylum Seekers, last consulted on 30 May 2025.

labour as their main livelihood, particularly on host community farms, while smaller portions engage in small businesses (10%) or salaried work (2%). Despite these efforts, 62% of refugees remain dependent on food aid and cash transfers.[14] Droughts and floods disrupt farming and reduce household resilience, limiting both food security and sustainable income generation.[15]

1.2 Kenyan Context

Kenya frequently experiences extreme climate events, including floods and droughts, which are intensifying due to climate change.[16] Between 2021 and 2023, prolonged drought conditions were followed by flooding in 2023, further increasing the vulnerability of populations in Turkana and Garissa Counties, particularly the refugee settlements and their surrounding host communities.[17] As of November 2025, Kenya hosts about 870,000 registered refugees and asylum seekers[18], of which about 87% live in refugee camps and 13% dwell in urban areas.[19,20] Most are from Somalia (57%) and South Sudan (23%).

Kibera slum, located in Nairobi County, is the largest informal settlement in Kenya and has the highest population density among all settlements in the country.[21] According to the 2019 national census, its population stood at 185,777.[22] Additionally, as of May 2025, UNHCR reported that Nairobi County hosts 114,280 refugees and asylum seekers.[23] The majority of Kibera's residents rely on the informal economy for their livelihoods, with urban agriculture, especially sack gardening, emerging as a common practice to supplement food supplies and generate additional income.[24] Due to existing social-economic vulnerabilities, densely populated informal settlements like Kibera are disproportionately affected by climate hazards, including floods and extreme heat.
Poor drainage and infrastructure, particularly water, sanitation, and hygiene (WASH) facilities, further heighten residents' vulnerability to various environmental and health risks.

Established in 1992, Kakuma Refugee Camp in Turkana County is home to 306,414 registered refugees and asylum seekers as of May 2025.[25] Kakuma Camp is divided into four areas: Kakuma 1, 2, 3 and 4.[26] Data collection was done in Kakuma 4. Livelihood options in camps are constrained by legal restrictions on formal employment and the camp's remote location. IMPACT's 2024 Kenya MSNA found that in Kakuma 4 refugee camp, 44% of refugee households engaged in casual labour, while 16% earned income from small-scale businesses such as retail shops, tailoring, and food vending and 9% participated in incentive-based employment or salaried roles with humanitarian organizations. Agricultural activities were minimal, with only 1% of refugee households involved in farming.[27] The camp has been repeatedly affected by climate shocks, most recently by the 2023 and 2024 floods which

[14] IMPACT Initiatives (REACH Initiative), MSNA Clean Dataset and Quantitative Analysis, 2024.
[15] Kamwenge District, CARE International, Kamwenge District Disaster Contingency Plan, 2024.
[16] OCHA, Drought Response in Review, Kenya, February 2023.
[17] OCHA, Kenya: Humanitarian impact of heavy rains and flooding, November 2023.
[18] UNHCR, Regional Dashboard RBESA: Refugees, returnees and internally displaced persons in the IGAD region, November 2025
[19] UNHCR, Kenya Statistics Infographics, January 2025.
[20] ACAPS, Country Analysis - Kenya, February 2025.
21 UN HABITAT, Informal settlements vulnerability mapping in Kenya, June 2020
22 Government of Kenya, 2019 Kenya Population and Housing Census, Volume I: Population by County and Sub County, 2019.
23 UNHCR, Kenya Statistics Infographics, January 2025.
24 Journal of Agriculture, Food Systems, and Community Development, Sack gardening as a livelihood strategy in the Kibera slums of Nairobi, Kenya, 2015
[25] UNHCR, Kenya Statistics Infographics, May 2025.
[26] UNCHR Portal, Kakuma Refugee Camp.
[27] IMPACT Initiatives (REACH Initiative), REACH_KEN_2401_MSNA_results_table_camps, September 2024

displaced 150,300 people, destroyed livelihoods, and deepened food insecurity.[28,29] Additionally, 100 households in Kakuma refugee camp were forced to relocate to safer areas because of severe soil erosion caused by the heavy rains.[30]

The **Dadaab Refugees Camp** in northeastern Kenya comprises three camps (Dagahaley, Ifo, and Hagadera), collectively hosting 432,380 refugees as of May 2025.[31] **This assessment was limited to Ifo camp**. According to the 2024 Kenya MSNA, the primary source of livelihoods for most refugee households in Ifo site in Dadaab was casual labour or daily wage work (54%). Additionally, 2% of households participated in small-scale trade, 7% in small-scale agriculture, 4% engaged in livestock rearing, and 20% found incentive-based employment with humanitarian organizations.[32] In November 2023, nearly 25,000 individuals in the Dadaab refugee camps were impacted by flooding, prompting many to seek refuge in schools. In 2024, El Niño triggered floods reportedly displaced nearly 20,000 refugees, destroyed homes, and damaged vital infrastructure like roads and latrines exacerbating risks to health, mobility, and market access.[33]

1.3 Objectives of the Study

This qualitative assessment was designed to explore the impacts of climate related hazards on livelihoods and examine how both refugee and host communities respond to these climatic changes through key informant interviews (KIIs) and participatory workshops (PWs). The assessment had the following objectives:

1. To assess the impacts of climate-related hazards on livelihoods among refugees and host communities in Kenya and Uganda.
2. To examine community-based adaptation strategies employed by refugees and host communities in response to climate-related hazards.
3. To synthesize existing climate adaptation efforts to identify climate risks, response gaps, and effective interventions in refugee-hosting areas of Uganda and Kenya.

The findings aim to support strategic decision-making, climate-resilient livelihood programming, and policy development for policymakers, development and humanitarian partners, and the British High Commissions across East Africa. The research is funded by the UK Foreign, Commonwealth & Development Office (FCDO).

1.4 Research Questions

This research aims to better understand how climatic hazards (extreme heat, flooding and drought) affect communities, how people adapt, and what more can be done to support effective responses to climatic hazards. The following questions guided this study:

1. How do climate-related hazards such as extreme heat, flooding, and drought-induced water scarcity affect the livelihoods of refugees and host communities in Uganda and Kenya?

[28] The United Nations Office for the Coordination of Humanitarian Affairs (OCHA), Kenya-Floods, update (DG ECHO, UN OCHA),(ECHO Daily Flash of 30 April 2024)
[29] The United Nations Office for the Coordination of Humanitarian Affairs (OCHA), Kenya: Humanitarian impact of heavy rains and flooding, November 2023
30 UNHCR, Severe floods affect tens of thousands of displaced people in Horn of Africa, November 2023.
[31] UNHCR, Kenya Statistics Infographics, May 2025.
32 IMPACT Initiatives (REACH Initiatives), REACH_KEN_2401_MSNA results_table_camps, September 2024
[33] UNHCR, Heavy rainfall in East Africa forces thousands of refugees from their homes, May 2024

2. What community-based adaptation strategies are being implemented by refugees and host communities to cope with these climate-related hazards?

3. What existing climate adaptation efforts have been undertaken in refugee-hosting areas, and what are the gaps, risks, and opportunities for more effective interventions?

1.5 Ethical Considerations and Community Engagement

- All research activities adhered to established ethical standards, including informed consent, confidentiality, and the right of participants to withdraw from the study at any point without consequence.
- In Uganda, approvals to access the settlements were first obtained from the Office of the Prime Minister (OPM). With these signed approvals, the research team made courtesy visits to the Refugee Desk Officers' Office (RDO) office in Northern and Southwestern regions to have the OPM letter endorsed. The endorsed letter was then presented to the respective settlement commandants to access permission, after which it was shared with community leaders to facilitate entry to the community.
- Community entry was facilitated through local leadership structures, such as the Refugee Welfare Council (RWCs) in the refugee community, the Local Councils (LC) in the host community in Uganda; and the Director of Refugee Services in Kenya, to ensure transparency.
- Participatory workshops (PWs) were conducted separately for men and women and further disaggregated by status of refugees and host community members to allow for context-specific dialogue in culturally safe spaces.
- Gender and age were key criteria used in the selection of participatory workshop participants to ensure representation across different life stages and livelihood experiences. No respondent was below the age of 18 years.
- Feedback sessions were conducted with selected community representatives, refugee led organizations (RLOs), community-based organizations (CBOs), and government representatives, among others, to validate preliminary findings, enhance accuracy, and community ownership of the research findings.

2. METHODOLOGY

2.1 Geographical Scope

Areas in Kenya and Uganda were selected based on their exposure to multiple climate hazards, including drought, heat waves and flooding, as well as existing vulnerabilities that exacerbate the impacts of these climate hazards, including inadequate housing, overcrowding, and limited access to basic services, livelihood opportunities, and coping mechanisms. Additionally, areas were selected to ensure both rural and urban experiences of refugees and host communities were captured.

In Uganda, three locations were assessed: Kampala City, Nyumanzi settlement, and Rwamwanja settlement

- **Kampala City,** an urban setting, was selected to better understand the unique climate risks faced by refugees in densely informal settlements.

- **Nyumanzi settlement in Adjumani District**, located in the rural north of Uganda, was chosen because it reflects the broader climate challenges typical of rural northern regions of Uganda and offers the opportunity to build on existing insights from the recently concluded IMPACT 2025 Area-Based Assessment on Community-Based Adaptation (ABACBA) report.

- **Rwamwanja settlement in Kamwenge District,** situated in the rural Southwest Uganda, was included due to its reliance on climate-sensitive livelihoods, particularly subsistence farming and livestock rearing, which are frequently disrupted by droughts and water shortages. This settlement's vulnerability was confirmed by a scoping exercise conducted by IMPACT Uganda.[34]

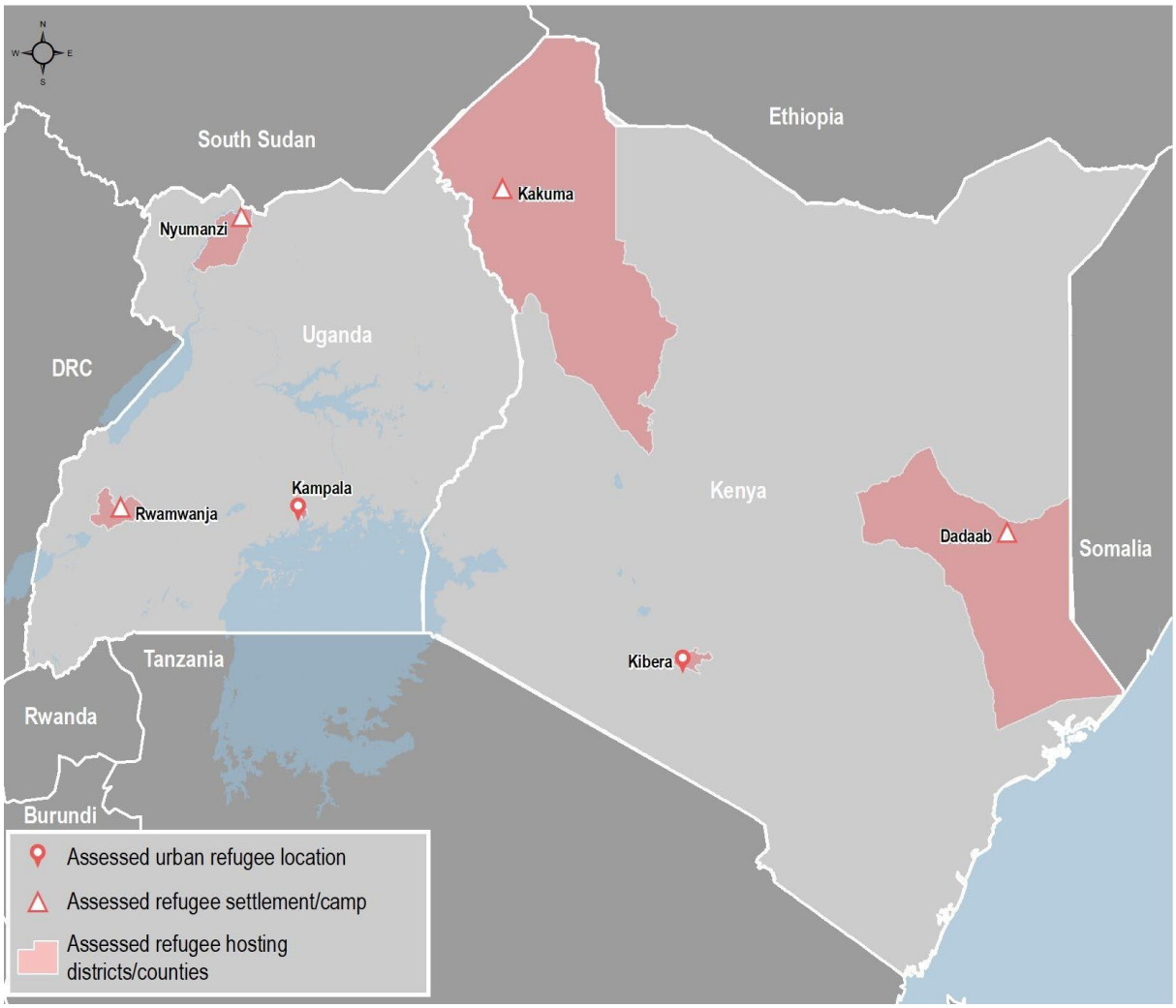
In Kenya, three locations were assessed: Kibera in Nairobi, Kakuma 4 Camp in Turkana County, and Ifo Camp in Dadaab Camp, Garissa County.

- **Kibera slum,** Nairobi's largest informal settlement, was selected to capture climate-related vulnerabilities in dense urban environments. The area is affected by flooding due to poor drainage and heatwaves during the dry season. These climate impacts are further compounded by high levels of economic vulnerability and limited access to resilience resources.

- **Kakuma 4 Camp** and **Ifo Camp,** located in the arid and semi-arid counties of Turkana and Garissa Counties respectively, experience recurrent droughts, extreme heat, and land degradation, which severely impact livelihoods. The regions also experience floods which damage infrastructure and put a strain on already limited resources.

[34] IMPACT Uganda conducted a scoping exercise in June 2024 to determine which settlements were more susceptible to extreme weather conditions. The exercise was done in Palabek, Nyumanzi, and Rwamwanja settlements.

Figure 1: Map of the assessed sites in Uganda and Kenya



2.2 Population of Interest and Sample Sizes

A total of 451 individuals took part in the key informant interviews (KIIs) and Participatory Workshops (PWs) conducted from 4 to 27 of March 2025. Across both countries, a total of 48 PWs and 67 KIIs were conducted across the six target locations. In Uganda, 16 PWs and 31 KIIs were conducted while 32 PWs and 36 KIIs were conducted in Kenya.

The population of interest for the KIIs were individuals who had knowledge and experience related to climate vulnerability and its effect on livelihoods and service provision in the assessed areas. These KIs were selected based on their professional roles and their engagement with different population groups, including children, women, youth, refugees, and PwDs. To be included, KIs had to have been working or residing in the area for a minimum of one year, ensuring they had sufficient familiarity with local climate-related challenges, community coping strategies, and institutional responses. The KIs interviewed included sectoral experts, such as **health workers, education staff, community leaders, local government representatives, local NGOs representatives** and **PwDs representatives.**

Table 1: Key informant interviews conducted

	Uganda			Kenya			Total		
Location/KI categories	**Rwamwanja Settlement**	**Kampala City**	**Nyumanzi Settlement**	**Dada-ab Camp**	**Kakuma Camp**	**Kibera Slum**	**UGANDA**	**KENYA**	**Sum**
Health expert	2	2	-	2	2	2	**4**	**6**	**10**
Education expert	2	2	-	2	2	2	**4**	**6**	**10**
PwD representatives	2	2	-	2	2	2	**4**	**6**	**10**
Community leaders	2	2	2	2	2	2	**6**	**6**	**12**
Local organizations representatives	3	2	2	2	2	2	**7**	**6**	**13**
Local government representatives	2	2	2	2	2	2	**6**	**6**	**12**
Total	**13**	**12**	**6**	**12**	**12**	**12**	**31**	**36**	**67**

The PW respondents (refugee and host community members) were selected purposively with the assistance of community leaders to ensure inclusivity and representation of ethnic tribes. The refugee respondents were selected from different zones in the settlement, while the host community members were selected from surrounding sub counties within a radius of 15 km from the refugee settlement/camps. The PWs were conducted in a few locations. Minors were excluded from the study.

Table 2: Participatory Workshops (PWs) conducted

		Uganda	Kenya		
	Categories	**Rwamwanja settlement**	**Dadaab refugee camp**	**Kakuma refugee camp**	**Total**
Refugees	Women	4	4	4	**12**
	Men	4	4	4	**12**
Host community	Women	4	4	4	**12**
	Men	4	4	4	**12**
	Total	**16**	**16**	**16**	**48**

Efforts were made to ensure gender balance in the PWs and to include diverse tribal and national backgrounds among refugee participants. The findings provide in-depth community and household insights into experiences with climate impacts and coping strategies rather than generalizable statistics across the broader refugee and host community populations within their respective locations. This qualitative approach allows for deeper contextual insights but also introduces potential biases based on the views and availability of selected individuals.

2.3 Data Collection Methods

A secondary data review was conducted to inform the research design, inform tool development, and synthesize existing climate adaptation efforts to identify climate risks, response gaps, and effective interventions in refugee-hosting areas of Uganda and Kenya. This became the Evidence Synthesis report underpinning this research.

The study relied on semi-structured qualitative data collection methods in both Uganda and Kenya. Two data collection methods were used: KIIs and PWs.

Key Informant Interviews (KIIs)

KIIs consisted of in-depth, semi-structured interviews conducted with selected individuals who possessed specialized knowledge of the local context and climate impacts. Interviewees included staff from the health and education sectors, persons with disabilities (PwD), local organisation representatives, community leaders, and local government officials. Some of the major themes in the KII guide included commonly reported weather events, main livelihood activities in the area, impacts of climate related hazards on livelihood and unpaid household labour, health, education, most impacted livelihood groups, how organizations and government are supporting to strengthen livelihoods amidst climate hazards. The guide was flexible enough to allow interviewers to explore emerging themes while maintaining consistency across interviews for the sake of analysis.

Participatory Workshops (PWs)

PWs were full-day, gender-specific sessions conducted separately with refugee and host community members engaging them in developing seasonal calendars and problem trees. Each session involved 8-10 participants. The seasonal calendars captured annual patterns in climate, livelihoods, and sociocultural events, while the problem trees explored the causes, effects, and coping strategies associated with major climate risks: extreme heat, floods/heavy rains, and drought/water scarcity.

Field deployment:

- In Uganda, data was collected in Kampala city, Rwamwanja and Nyumanzi settlements by three Senior Field Officers (SFOs) and an assessment staff.
- In Kenya, two teams collected data concurrently in Dadaab refugee camp in Garissa County and Kakuma refugee camp in Turkana County, with a follow-up in Kibera informal settlement in Nairobi County, each team included an assessment staff, field officers and local enumerators.

2.4 Data Analysis

To support systematic analysis of qualitative data, Data Saturation and Analysis Grid (DSAG) was developed to systematically conduct data analysis. The KIIs were recorded for participants who provided consent, while notes were taken for those who did not consent to recording. All the recorded interviews were transcribed, and the notes were compiled, then summarised according to both predetermined and emerging themes. The DSAG served as a structured tool to compile and organize responses from the KIIs and PWs across all sites. The grid allowed for thematic categorization of insights under core topics aligned with the research questions. This approach enabled the commonly discussed themes to emerge and allowed the team to track the recurrence of these specific themes. It also facilitated cross-location comparison, identification of adaptation strategies and vulnerabilities, and informed the synthesis of findings presented in the report.

In addition to the DSAG, Problem Trees and Seasonal Calendars (SC) were developed during the PWs and served as key analytical tools. The Problem Trees helped unpack the causes, effects, and coping

strategies linked to key climate hazards (extreme heat, flooding, drought), it also included analysing the community adaptive responses and suggested solutions while the Seasonal Calendars documented monthly variations in climate impacts, livelihood activities, and household responsibilities. These participatory outputs provided context-rich visual data that enhanced the interpretation of trends and supported triangulation of qualitative findings across sites.

2.5 Challenges and Limitations

Indicative data: The qualitative methods used (KIIs and PWs) did not involve probability sampling or reaching target sample sizes required to produce statistically representative results. Therefore, while these tools provide rich, context-specific insights drawn from the perspectives and experiences of participants, the findings should be considered indicative rather than generalizable to the entire refugee or host populations.

Data collection timelines: Data collection coincided with Ramadan period/month in some sites, which posed unique operational challenges. In refugee communities with a significant Muslim population, fasting participants often experienced fatigue, reduced concentration, or were reluctant to participate in lengthy interviews or group discussions, especially during afternoon hours. Additionally, scheduling around prayer times significantly reduced the available time for conducting PWs and interviews. Participation in group-based activities was lower in some cases, as individuals prioritized religious commitments over research activities. Field officers had to adapt engagement strategies to remain culturally sensitive and avoid placing undue burden on respondents.

Persons with disabilities: There was limited participation of persons with disabilities in some locations, despite intentional efforts to include them. This was often due to identification challenges of those with cognitive disabilities, potentially underrepresenting the perspectives of this group in the findings. Only physical disabilities were represented.

3. FINDINGS

3.1 UGANDA - CLIMATE HAZARDS IN CONTEXT

3.1.1 Overview of the Climate Related Hazards

Introduction

Climate-related hazards are common in Uganda's refugee-hosting districts, and in Kampala City, Rwamwanja and Nyumanzi refugee settlements, communities report that these hazards have become increasingly intense, unpredictable, and disruptive to their lives and livelihoods. Over the past 30 years, the frequency and intensity of floods, droughts, and landslides have risen, with flooding becoming more common due to heavier rainfall.[35] On average, 200,000 Ugandans are affected by disasters each year, and the impact of floods is worsening due to expanding infrastructure, growing human settlements, and broader development across the country.[36] This section presents findings on climate-related hazards identified and perceived by the population across the study areas in Uganda, including Kampala, Rwamwanja and Nyumanzi and examines how they manifest throughout the year. Understanding these hazards is foundational to designing context-specific, inclusive, and effective livelihood and adaptation programs.

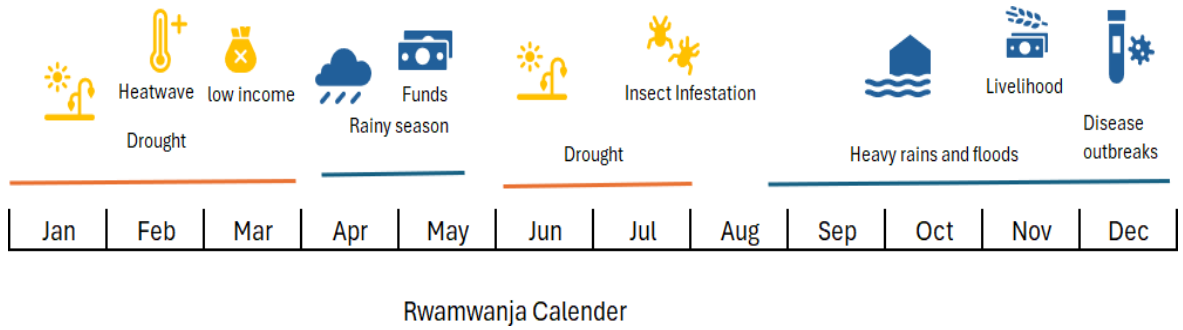
Climatic Profile of Uganda's Refugee-Hosting Areas

Uganda's refugee hosting regions are mostly located in areas with a bimodal rainfall pattern, experiencing two main rainy seasons - late March to May and August to December - and two main dry seasons - January to early March and June to July.[37] **Rwamwanja settlement**, situated in Western Uganda, demonstrates higher agricultural productivity, while **Nyumanzi settlement**, located in Northern/West Nile region, is more arid with prolonged exposure to dry periods. **Kampala City**, though urban, is increasingly experiencing urban flooding and heat stress, particularly in informal settlements with poor drainage infrastructure. A 2018 study highlighted that the city's rapid unplanned development and expansion into flood-prone areas have left vulnerable communities - especially the urban poor - disproportionately exposed to climate-related hazards.[38] In March 2025, severe flooding in Kampala City claimed the lives of at least six individuals, including two minors, and left hundreds stranded and cutoff from essential services as key roads such as the Kampala-Jinja Highway and the Northern Bypass became impassable. Local authorities attributed the flooding to clogged drainage channels and obstruction of natural drainage pathways caused by ongoing road construction. Residents in areas such as Bwaise, Kalerwe, and Kinawataka parishes cite repeated losses of life and property during every rainy season.[39]

Seasonal calendar data shared by participants in the participatory workshops indicates that in the past few years there has been increasing unpredictability in seasonal cycles, leading to heightened exposure to climatic shocks. For example, respondents in **Rwamwanja settlement** reported that rains, which traditionally began in March, are now often delayed until late April or May, while dry spells have extended into months that were previously reliably wet.

[35] Ministry of Water and Environment, as cited in World Bank Group, Climate Risk Country Profile – Uganda, May 2021.
[36] CCD, National-Climate-Change-Mainstreaming-Guidelines, April 2018.
[37] WORLD BANK GROUP, Uganda Country Profile, 2021.
[38] IMPACT Initiatives (AGORA Initiative), Understanding the Needs of Urban Refugees and Host Communities Residing in Vulnerable Neighbourhoods of Kampala, June 2018.
[39] INDEPENDENT NEWS PAPER, 6 killed in Kampala floods, March 2025.

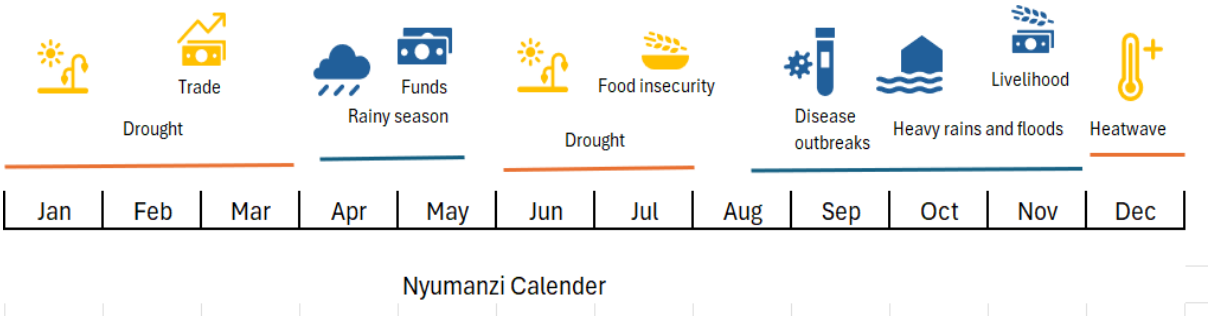
Figure 2: Seasonal Calendar for Rwamwanja settlement (Uganda)



Rwamwanja Calender

Similarly, in **Nyumanzi settlement**, participants described how floods now occur unpredictably during both the early and late rainy seasons, damaging crops like maize and cassava, and contributing to livestock deaths from disease outbreaks linked to excessive moisture.

Figure 3: Seasonal Calendar for Nyumanzi settlement (Uganda)



Nyumanzi Calender

Key Climate Hazards Reported

Respondents across Kampala City, Rwamwanja and Nyumanzi refugee settlements consistently reported experiencing four major climate hazards:

- Extreme heat
- Drought/water scarcity
- Flooding/heavy rains
- Strong winds and storms

Extreme Heat

Across both Rwamwanja and Nyumanzi refugee settlements, communities described excessive heat as one of the most persistent and worsening hazards. It typically peaks during the traditional dry seasons of January to March and June to July, but participants noted that these elevated temperatures now extend for longer periods than expected.

Extreme heat reportedly impacts mobility, preventing many from walking long distances, causes dehydration, and reduces work productivity for farmers and casual labourers. It has also caused livestock stress and mortality, reducing the availability of milk and meat for household consumption, diminishing income from livestock sales, and increasing financial strain on families who depend on animals as a primary livelihood. Women in participatory workshops also reported difficulties

performing essential household activities like cooking and firewood collection during midday hours due to excessive heat. Health practitioners who were interviewed noted an increase in cases of dehydration, respiratory distress, and fatigue, especially among children, pregnant women, and the elderly.

> *'Extreme heat increases the heart rate, weakens the body, and reduces work productivity of most people.*"- PwDs KII respondent, Kampala City (Uganda)

Drought/Water Scarcity

Drought was reported as a recurrent hazard disrupting both agricultural and household systems. It is most pronounced during the dry periods of January to March and June to July, but its impacts persist for months afterward due to cascading effects, such as crop failure and water scarcity. Key informants noted that during these periods, some households must walk long distances to access boreholes, heightening exposure to health risks such as dehydration, heat exhaustion, fatigue, and dizziness. In Nyumanzi settlement, for example, December used to bring more moderate temperatures, but now communities report that the intense heat gives way to the more moderate/cold temperatures due to strong dry winds, showing that heat persists longer into the year before winds cool conditions.

Seasonal calendars and community narrative indicated that while reduced soil moisture and water scarcity are typically expected during the dry season, participants perceived that these conditions have intensified over recent years, with water sources depleting earlier than before, soils drying out faster, and crop losses becoming more severe and widespread compared to previous dry seasons.

Farmers abandoned certain crops such as maize, for more drought resistant crops due to unreliable rainfall. While this is a positive adaptation strategy to maintain some level of production, respondents noted that the replacement crops often generate lower revenue and yields in comparison, limiting household income. Local leaders reported increased food insecurity, while health and education KIIs noted higher malnutrition rates and school absenteeism amongst children.

> *"In Rwamwanja settlement, extreme heat and prolonged droughts have disrupted planting seasons and caused poor yields in crops hence crop failure due to a combination of drought, pests, and disease.*" - Community Leader, Rwamwanja settlement (Uganda)

Heavy rain and floods

Rainfall typically arrives during March to May and August to December, but communities described it as increasingly erratic and intense and sometimes coupled with strong winds. Flooding, especially in low-lying areas and poorly drained settlements, is now a yearly event.

Floods were reported to damage shelters, destroy crops, and block roads, making it difficult for people to access essential services like schools, health facilities, and markets. At the household level, respondents reported that heavy rains and flooding have led to the loss of personal belongings, food stocks, and essential household items, it has also increased the risk of waterborne diseases due to poor sanitation and caused displacement as families and businesses are forced to seek temporary shelter.

Health KIIs reported increased incidences of waterborne diseases like diarrhoea, malaria, and skin infections. Community KIIs also mentioned that school children often miss exams when school buildings are flooded or roads become impassable.

> *"Flooding damages goods and reduces profit margins... flood waters enter homes and businesses, disrupting supervision and ongoing projects."* - Local organization representative, Rwamwanja settlement (Uganda)

Strong Winds and Storms

Strong winds were especially noted at the beginning of the rainy seasons in April and August. These winds, often accompanying intense storms, cause damage to shelter, crops, and trees. Informal shelters, which are often overcrowded with refugees and constructed from weak or worn building materials, are particularly vulnerable.

> *"Strong winds and heavy rains have knocked down annual crops, reducing yields."* - Community Leader, Nyumanzi settlement (Uganda)

Community members from Nyumanzi settlement reported repeated roof repairs and fear of trees falling on homes. These winds also contribute to injury risks and temporary displacement of families when homes become uninhabitable. Across seasonal calendar workshops and KIIs, participants consistently described a shift in climate patterns.

> *'Before, the rains used to start early in March, but now sometimes they delay and only come at the end of the month, or even later. It has become hard to know when to plant because the dry season keeps extending."* - PW participant, Rwamwanja settlement (Uganda)

3.1.2 Livelihood Activities and Impact of Climate Related Hazards

Across the settlements of Rwamwanja and Nyumanzi, as well as urban areas like Kampala City, climate-related hazards such as excessive heat, prolonged drought, heavy rainfall, and floods have severely disrupted income-generating activities and undermined productivity across sectors.

This section summarizes the primary livelihood activities for income generation practiced by refugee and host communities and the perceived impacts of climate-related hazards on these livelihood activities. Insights from KIIs and PWs were gathered in Kampala City, Rwamwanja, and Nyumanzi refugee settlements. Respondents highlighted three primary income generating activities:

- Own production/agriculture (including crop production, animal husbandry and farming)
- Small business
- Casual labour

Communities were asked to discuss how extreme heat, water scarcity and drought, heavy rain and flooding, and related climate events have affected income generation, labour productivity, and access to resources and infrastructure. The analysis highlights the communities' self-reported prevention, coping, and adaptation strategies. In addition, it outlines the forms of support communities say they need to mitigate these impacts and strengthen their resilience.

Own Production/Agriculture

Consistent with the Uganda IMPACT Multi-Sector Needs Assessment (MSNA) 2024, agriculture (including subsistence and small-scale crop farming, livestock rearing, and beekeeping) was reported as the most widespread livelihood activity across both Rwamwanja and Nyumanzi settlements.[40] Crop farming is practiced extensively in both settlements, with commonly grown crops including maize, beans, Irish potatoes, bananas (matoke), coffee, and groundnuts. Households also engage in livestock keeping, particularly in Rwamwanja, where chickens, goats, and cattle are reared. Additionally, beekeeping is practiced on a seasonal basis. In Rwamwanja, beehives are prepared in January, and the honey is often harvested in September to supplement household livelihoods alongside other agricultural activities.

Due to land scarcity, agriculture is a far less common livelihood activity for host communities and refugees alike in Kampala city. The primary livelihood activities KIIs mentioned include small businesses and casual labour. KIIs also noted that reliance on remittances is common which aligns with the Uganda MSNA 2024 data where 45.6% reported main source of livelihood as casual labour and 49.7% mentioned own/small business.[41]

While agriculture remains the most widespread livelihood activity in refugee-hosting areas, it has become increasingly vulnerable to climate shocks. KIIs interviewed consistently reported that prolonged droughts and excessive heat have led to significant crop failure. Crops such as maize, beans, groundnuts, cassava, and green gram dry up before maturity. Pests and diseases thrive in changing conditions, further compounding the losses. In Nyumanzi settlement, maize yields were reported to have dropped from 5–8 sacks per acre to as low as 2 sacks. Pasture and water shortages have disrupted livestock farming, leading to reduced milk production, increased animal disease, and in some cases, death. Livestock also destroy crops in search for water and herders walk longer distances in search for water for their animals.

Flooding has been reported to damage farmland, wash away crops and erode the topsoil, while strong winds and hailstorms have destroyed crop, shelters and storage facilities. For example, in Mahani parish of Kamwenge, the district surrounding Rwamwanja settlement, community members reported that hailstorms have occasionally destroyed crops and animal shelters, contributing to severe food shortage and loss of income. PwDs in Rwamwanja settlement reported being largely unable to engage in farming due to the physically demanding nature of agricultural work, which is exacerbated by hot weather and heavy rainfall.

Small Businesses

Participants reported that small businesses provide an important alternative source of income beyond farming and are particularly common in and around settlement markets and Kampala City. These businesses include petty trade and vending, where individuals sell vegetables, cooked food, charcoal, firewood, second-hand clothing, and various small household items. Others are engaged in informal services and transport, such as operating boda-boda (motorcycle taxis) or working as mobile vendors. These small businesses, while a vital part of the informal sector, often lack stability and social

[40] IMPACT_REACH_Uganda_MSNA_Clean_Dataset_and_Quantitative_Analysis.xlsx, 2024.
[41] REACH_UGA_2024-MSNA-Report_July-2025.

protection, leaving workers susceptible to economic shocks. Such activities are especially prominent among youth and men, who rely on the mobility and flexibility they offer to meet daily needs.

Heatwaves and unpredictable rainfall have had a strong negative impact on small businesses across all study locations. Vendors in Kampala City, Nyumanzi and Rwamwanja settlements reported lower customer turnout, accelerated spoilage of perishable goods, and operational disruptions. Vegetables, bread, and beverages spoil quickly during hot spells, creating substantial financial losses while poor road conditions during floods make market access difficult. In open markets in Kampala, like Owino and Nakasero, vendors reported having faced profit losses from damaged goods and transport delays.

Additionally, frequent power outages during hot weather were mentioned by community leaders in Kampala City as a key challenge, particularly for small restaurants and retail shops relying on refrigeration. Urban refugees involved in hawking and street vending said the heat reduces stamina and forces early closure, whereas flooding prevents them from operating altogether. Respondents noted that some small business owners had to relocate or ceased operations entirely due to flooding.

Casual Labour

Many individuals in Kampala City, Rwamwanja and Nyumanzi settlements, particularly those without access to land or financial capital, noted that they engage in short-term, labour-intensive work to support their livelihoods. Gender roles significantly shape different forms of casual labour participation, partly reflecting societal expectations. Men are predominantly engaged in construction, bricklaying, and transporting goods; women more commonly undertake domestic support activities, including cleaning, laundry, and caregiving. These casual labours are typically informal, with low and irregular wages and without employment protections. While this study did not explore gendered wage disparities in depth, broader literature highlights that women often face added disadvantages due to lower earnings and dual responsibilities in paid and unpaid work.[42]

Casual labour, including bricklaying, construction, charcoal selling, and domestic support work, has also been disrupted by climate phenomena. Extreme heat reduces energy and stamina, especially among women and youth, leading to early departure from work or job loss. Outdoor tasks become physically exhausting, resulting in fewer job opportunities and income instability.

Flooding creates further barriers by damaging road access, making it dangerous or impossible to travel to places, including job sites. Casual workers, especially those residing in low-lying settlements, are sometimes forced to suspend work altogether. In Kampala City, health care KIIs reported that heavy rains have caused flooding, leading to delays in the delivery of medicines, vaccines and limiting access to some health facilities, particularly in slum areas. These disruptions often result in untreated medical conditions turning into emergencies, compelling households to seek costly care from private providers. As a result, families are forced to spend their limited savings on urgent health expenses. These health expenses deplete funds that would otherwise be used for school fees, food, or small business investments, ultimately reducing their ability to invest in income-generating activities.

PwDs also reported struggling with the physical demands of casual work and facing reduced job opportunities during extreme weather. Some shared that they prefer opportunities that can be done while seated, including indoor vending, soap-making, or tailoring, as they are less draining.

3.1.2 Community Adaptation and Response Strategies

Across all assessed locations, participants reported experiencing increased household debt, food insecurity, and reliance on external assistance as a direct or indirect result of climate hazards. Refugee and host community households have highlighted a growing need for adaptive livelihood support to

[42] ILO, Care work and Care jobs for the future of decent work, first published in 2018.

sustain income under changing climatic conditions. In response to escalating climate hazards, communities in Kampala, Rwamwanja and Nyumanzi settlements have employed a range of adaptation strategies to reduce risks and maintain their livelihoods. These include short-term coping mechanisms and longer-term adaptation efforts driven by households, community, local organizations, and support from development actors.

Shifted routines and labour strategies: Respondents reported that households have adjusted their work and domestic routines. Vendors and labourers start earlier to avoid peak heat. Casual workers sometimes have to move closer to job sites, suspend work during extreme events, or endure riskier environmental hazards to work.

Water and food management: Households harvest rainwater, store water in tanks and jerrycans, and modify food preparation (e.g., cooking dry foods or storing perishables differently). Community groups dig trenches or maintain local boreholes.

Modified livelihood practices: Farmers adopt drought-resistant seeds or practice early planting or intercropping. Some households shift from agriculture to trade or services. Community groups practice communal land preparation, share farm tools, or rotate grazing lands. Farmers from Nyumanzi also mentioned providing shade/building shelter for livestock and relying on irrigation to sustain crops during dry spells.

Protective infrastructure and tools: Participants reported that gumboots, umbrellas, cooking shelters, and shaded stalls help individuals cope with floods and heat. Communities improve drainage systems and raise gardens or homes.

Collective action and informal networks: Communities engage in mutual actions such as rebuilding damaged homes, clearing roads, or pooling savings through Village Savings and Loans Associations (VSLAs). Youth and women groups lead awareness on tree planting, hygiene, and safe caregiving during climate extremes.

Risky and Harmful Coping Strategies

Across both refugee and host communities in Kampala City, Rwamwanja and Nyumanzi settlements, community members - particularly those from refugee and low-income host populations - have increasingly resorted to risky or harmful coping strategies because of climate-related disruptions. These strategies reflect deepening vulnerabilities, limited livelihood alternatives, and insufficient formal support systems. There were reported cases of school absenteeism and dropping out of school. Many people reportedly engaged in hazardous and exploitative work.

A common trend across all locations was the reported increase in child labour and early marriage as coping strategies in households facing food insecurity. Communities attributed these economic pressures primarily to recurrent droughts and floods that reduced harvests and incomes, though it is recognized that other structural factors may also contribute. Children are reported to engage in physically demanding tasks such as construction, bricklaying, and guarding fields. Early marriage, particularly among girls, is seen to reduce household burdens or gain material support. In extreme cases, some KIs reported that girls faced pressure to become pregnant as a means of securing basic needs.

Prostitution and transactional relationships have emerged as survival strategies among both refugee and host community women, particularly in market and urban settings like Kampala. These activities are often driven by the need to access essential items like food, clothing, and mobile phone airtime. In some cases, these relationships involve older men, resulting in cross-generational dynamics.

Theft, smuggling, and robbery were frequently reported, especially among unemployed youth. These behaviours range from stealing household goods and livestock to cross-border smuggling of fuel and sugar. In Kampala City and Nyumanzi Settlement, youth reportedly engage in drug sales and violent crime. Community leaders and KIIs in the studied areas attribute the rise in such behaviours to desperation during prolonged droughts and floods.

> *''Increased theft cases are especially common during the dry season. Due to the lack of pasture, livestock owners allow their animals to graze freely, making them vulnerable to theft. For instance, in February 25 heads of cattle were stolen from a kraal in Jurumini East village by unknown individuals. In a more recent incident, 35 heads of cattle were stolen, but fortunately, one suspect was arrested while two others escaped. All 35 animals were recovered, but the 25 and 26 heads stolen in previous incidents remain missing.''* - Community leader, Nyumanzi settlement (Uganda)

Drug and substance abuse - particularly among the male youth - was widely reported. Marijuana, alcohol, and tramadol are reportedly commonly used, contributing to increased violence and social unrest. Youth are reported to often gather in groups and loiter in markets or streets, engaging in boxing, looting, and other criminal activities.

In addition to these direct behaviours, some households reported borrowing from informal and predatory lenders under exploitative conditions. Debtors risk confiscation of personal items or arrest when they are unable to repay. Other high-risk activities shared by KIs include scavenging in sewage lines, poaching (specifically in Rwamwanja), and migrating to mining sites, exposing individuals to health and legal hazards.

> *''After flooding, women often borrow money from lenders to start businesses without their husbands' consent. As a result, their IDs are confiscated, and they may eventually be arrested by the police, leading to domestic violence.''* - Local organization representative, Nyumanzi settlement (Uganda)

Support from Government and Development Actors

Local governments and development actors have introduced various interventions to reduce vulnerability, support resilience, and promote safer alternatives to harmful coping mechanisms in response to hazards and their effects on livelihoods.

In Kampala City, local government focuses on risk reduction through community education about avoiding flood-prone zones and works in coordination with NGOs and the private sector to support emergency response and recovery efforts. NGOs implement resilience programs that provide business grants, vocational training, rent assistance, and flexible business education to help communities adapt their livelihoods to climate change. Psychosocial support services address the mental health impacts of climate stress. A respondent working at the NGO YARID mentioned that psychosocial support is also offered through initiatives such as football and haircutting training, helping people stay engaged and productive.

In Nyumanzi settlement, local authorities encourage tree planting and trenching to manage floodwaters, support household resettlement in safer areas, and help connect groups to the Parish Development Fund for livelihood recovery. NGOs support the implementation of smart agriculture

through the use of improved seeds, backyard gardens and post-harvest handling, providing youth vocational support and helping to establish savings groups and disaster response teams. In-kind support includes distribution of mosquito nets, farm tools and water purifiers.

In Rwamwanja settlement, damages and losses caused by climatic hazards are reported to national authorities through administrative channels like local council chairpersons. NGOs distribute drought-resistant seedlings, watering cans, and improved cookstoves. Startup capital is provided to support small business development, alongside the provision of livestock feed and access to extension services. Sexual and reproductive health (SRH) education is also provided to counter early marriage and transactional sex.

In both **Nyumanzi and Rwamwanja settlements**, infrastructure support includes the rehabilitation of roads, construction of market shelters, and installation of water tanks in schools and public trading centres.

3.1.3 Suggested Solutions

In response to the growing impacts of climate-related hazards, community members across Kampala City, Rwamwanja and Nyumanzi settlements proposed a mix of community-led actions and external support to strengthen their livelihoods and household resilience.

Community-led strategies focused on practical, low-cost adaptations already in use or proposed. These included tree planting for shade and soil protection, climate-smart farming techniques like mulching and use of drought-tolerant crops, and environmental conservation through wetland restoration and drainage maintenance. Households also suggested basic improvements such as cementing kitchen and compound floors to ease cleaning during floods and building small trenches or elevated cooking spaces. Formation of VSLAs and sensitization on gender role flexibility were also common local initiatives proposed.

External support recommendations centred on scaling up these efforts through targeted assistance. Communities called for expanded water access through boreholes, piped water and storage tanks, as well as through distribution of agricultural inputs like improved seeds and fertilizers. There was strong demand for vocational training and startup support in off-farm trades like tailoring, salon work, and small business management. To protect small businesses and casual labourers, respondents recommended stronger market infrastructure, provision of protective gear, and flexible work arrangements during extreme weather. Urban residents also proposed expanding access to digital income opportunities and financial services through microfinance and VSLAs.

Overall, respondents emphasized that while local actions are crucial, they must be matched with sustained institutional support for example, multi-year investments in flood-resilient infrastructure, piped water systems, and livelihood recovery programmes to improve infrastructure, promote inclusive livelihoods, and build long-term resilience for both refugee and host communities.

3.1.4 Unpaid Household Labour and Impact of Climate-Related Hazards

In Uganda's refugee settlements and host communities, unpaid household labour is fundamental to daily survival. These responsibilities are heavily gendered, with women and girls primarily handling cooking, cleaning, water collection, laundry, and childcare. Men and boys contribute occasionally, often with physically intensive tasks such as firewood collection, trench digging, or compound maintenance. The burden of this labour is significantly heightened during climate shocks, which affect both the intensity and safety of these tasks.

Figure 4: Gendered responsibilities (Uganda)

Impact of Climate-Related Hazards on Unpaid Household Labour

Cooking and food preparation: Cooking becomes difficult and unsafe across all hazards. During heatwaves, overheated shelters make cooking physically exhausting and dry fuel increases the risk of fire outbreaks. Drought compounds these challenges by reducing water availability, forcing families to limit meal preparation or rely on less nutritious foods. During floods, kitchens may collapse or become flooded, firewood becomes soaked, and households are often forced to cook on verandas or indoors, increasing smoke exposure and its resultant health risks.

> *''Flooding has cause some of the kitchens built temporary to collapse which has left most people with no option but to cook from verandas or inside the house''* - Host community PW respondent, Nyumanzi settlement (Uganda)

Fetching Water: Water collection becomes more burdensome and riskier during climate extremes. In heat and drought, water sources dry up, requiring longer walks and queuing for hours. This extended exposure to high temperatures raises the risk of dehydration and exhaustion for those responsible for water collection. During floods, some closer access points are cut off, forcing detours through unsafe areas and increasing the risk of waterborne diseases from contaminated sources.

Firewood Collection: Firewood collection is increasingly difficult across seasons. During drought, firewood becomes scarcer, requiring longer trips and exposing women to physical strain and environmental hazards. During floods, firewood gets wet and becomes unusable, adding further time and effort to secure dry fuel for cooking.

House and Compound Cleaning: Maintaining hygiene becomes more strenuous under all hazards. In dry seasons and heat, dust accumulates rapidly, requiring multiple rounds of sweeping each day and worsening respiratory health issues. During floods, mud and stagnant water accumulate in compounds, necessitating frequent cleaning to prevent disease outbreaks. Damp conditions also damage cleaning tools and create slippery, hazardous surfaces.

Laundry and Clothes Drying: Water scarcity during drought limits the frequency of laundry washing and necessitates the reuse of wash water, raising hygiene concerns. Heat accelerates dust accumulation, so clothes become soiled more quickly and require more frequent washing. Flooding disrupts drying, as damp conditions and lack of elevated spaces leave clothes wet for longer, increasing the risk of skin infections and damage to fabrics.

Childcare: Caregiving responsibilities intensify during extreme weather. In heat, caregivers must manage dehydration, rashes, and discomfort in young children, especially those with existing health vulnerabilities, such as albinism. Drought increases the risk of malnutrition and illness due to scarce food and water. Floods expose children to waterborne diseases such as malaria and diarrhoea, while also creating unsafe indoor environments.

> *"Persons with albinism face specific problems during extreme heat, as their skin burns easily and their vision is affected; this forces them to remain indoors, reducing their ability to engage in household activities."* - PwD respondent in Kampala City (Uganda)

3.1.5 Community Adaptation and Response Strategies

Refugee and host community households in Uganda have employed a variety of adaptation strategies to mitigate the impacts of climate hazards on unpaid household labour.

Shifted routines and task adjustments: In response to extreme heat, many households in Nyumanzi, Rwamwanja, and Kampala reported adjusting the timing of unpaid household chores, such as cooking, cleaning, and water collection, to cooler parts of the day (i.e. early mornings or late evenings). Women especially shifted heavy tasks like sweeping and washing to avoid the midday sun, while others cooked indoors or under tree shade where available. Households also reduced the number of meals cooked per day to conserve water and fuel during drought periods.

Water and cleaning adaptations: To manage water scarcity, especially during droughts in Rwamwanja and Nyumanzi, PW respondents reported that they conserve water by storing it in jerrycans or repurposing water used for washing. In Kampala, residents reported using piped water when available or purchasing water for domestic use, with some resorting to borrowing from neighbours. To maintain the hygiene of their compound, households used a variety of strategies, including wetting the ground prior to sweeping to reduce the amount of dust and covering utensils to protect them from potential contamination during heavy rains.

Childcare and caregiving practices: Caregivers, particularly in Kampala and Nyumanzi, limited children's outdoor activity during extreme heat and kept children indoors during floods. Some households in Rwamwanja adapted by bathing children more frequently or using lightweight clothing to keep them cool.

Community cooperation and infrastructure: Some communities in Rwamwanja and Nyumanzi collaborated to dig drainage channels and shared water collection responsibilities to reduce the burden on individual households. To reduce flood impacts and dust exposure, communities also practiced tree planting and compound levelling. However, such initiatives were reported to be largely informal and community-driven, with limited external support.

Risky Coping Strategies Linked to Household Labour

- Withdrawal of children from school: In Nyumanzi and Rwamwanja, children, especially girls, were reportedly withdrawn from school during floods or droughts to help with chores, including water collection and caregiving.

- Night-time water collection: To avoid long queues or extreme heat, women and girls in Rwamwanja reported collecting water at night, increasing their exposure to risks such as accidents, assault or animal attacks.

- Reduced hygiene practices: During droughts, families in all three locations reported bathing less often and reusing washing water, raising health risks related to poor hygiene, especially among children and persons with disabilities.

- Overburdening of women and girls: Women and adolescent girls in Kampala and Nyumanzi reported that they took on heavier cleaning and caregiving loads during floods, leading to fatigue and, in some cases, illness or injury.

3.1.6 Suggested Solutions

Participants across all locations proposed several practical solutions to better mitigate the impacts of climate hazards on unpaid household labour.

Household infrastructure and environmental management: To improve household hygiene and reduce physical strain, women suggested the use of cement flooring in households and other community centres moving forward. This recommendation primarily applies to kitchen spaces and compound walkways, which are frequently affected by flooding, mud, and dust accumulation. Participants from the PWs also mentioned the need to increase access to energy-saving cookstoves, especially in flood-prone or drought-affected communities. Moreover, they emphasized the importance of improved ventilation in kitchens, rainwater harvesting systems, and permanent cooking shelters. Communities also recommend expanding local water infrastructure through drilling boreholes and constructing water storage facilities. Both men and women emphasized the importance of planting trees, greening compounds, and installing pavers to reduce dust and heat buildup. The need for provision of soap, face masks, gumboots, raincoats, mosquito nets and drying racks was raised repeatedly.

> *''Our compounds turn muddy and slippery when it floods. If we had cement floors or pavers, it would be easier to clean and safer for the children.*"- Female respondent, Nyumanzi settlement (Uganda)

Community sensitisation: Both men and women stressed the need for targeted community sensitization programs to promote shared domestic responsibilities, challenge rigid gender roles, and build awareness of efficient household water and energy management.

> *''Women are the ones doing all the cleaning and cooking. There should be more awareness for men to help at home, especially during hard times.*" - Host community male participant, Rwamwanja settlement (Uganda)

> "*At school, the children need water, shade, and maybe a van to take them when it floods. Otherwise, they miss class often.*" - Female respondent, Rwamwanja settlement (Uganda)

Water and Sanitation improvements: Participants also proposed community-led infrastructure improvements such as proper drainage and provision of cleaning tools and storage equipment. They also advocated for school-based improvements, including water taps and shade for children, and school transport support during heatwaves or flooding.

Energy and Cooking Solutions: To enhance cooking safety and efficiency, participants recommended the distribution of energy-saving cookstoves and alternative fuel sources, such as gas or electricity. In areas prone to floods, these would reduce reliance on unsafe open fires. Rainwater

harvesting systems were also proposed to support cooking and cleaning needs, particularly during water shortages.

3.1.7 Demographic and Sectoral-Specific Impacts

Gendered Impacts

Women, especially those heading households, were among the most disproportionately affected by climate-related hazards across all sites. Beyond primary responsibilities of cooking, water collection, cleaning, and caregiving, female-headed households face compounded challenges as women must simultaneously maintain domestic duties and secure family livelihoods without the added economic support often provided by males. During floods, women are more likely to be displaced or unable to continue work due to damage to roads, their homes or stalls.

Pregnant women and breastfeeding mothers are particularly vulnerable due to reduced immunity, limited mobility, and higher nutritional needs. Community leaders and local organizations noted that female-headed households face increased burdens as they struggle to secure food, water, healthcare, and school fees for children. In urban slums, single mothers are disproportionately impacted due to overcrowding, poor infrastructure, and unstable income sources. Gender norms also restrict men from supporting with household chores, further exacerbating the workload on women during climate crises.

3.1.8 Persons with Disabilities (PwDs)

PwDs in Uganda's refugee-hosting areas are active contributors to both the economy and domestic life but remain disproportionately vulnerable to climate-related disruptions. Access to livelihoods, water, healthcare, and mobility is regularly challenged by natural hazards, making external assistance and community support essential. Mobility barriers, lack of inclusive services, and dependence on others intensify their exposure to climate shocks, highlighting the need for disability-sensitive climate adaptation and support systems.

Table 3: Number of PwDs interviewed in Uganda[43]

	Uganda		
Categories	**Rwamwanja settlement**	**Kampala city**	**Total**
Refugees	1	1	**2**
Host community	1	1	**2**
Total	**2**	**2**	**4**

Participation in Livelihood and Household Activities: In both Kampala and Rwamwanja, PwDs are actively involved in various livelihood activities, particularly those that require minimal mobility or physical effort. Common income-generating activities include tailoring, roadside vending, hawking small items, selling bread or produce, beadwork, and shoe repair. Tailoring remains a popular option but challenges such as lack of transport, absence of electronic machines, and difficulty operating manual equipment hinder full participation. Some individuals also engage in art and craft work or computer-based tasks, though those with visual impairments face additional challenges.

[43] NB: Other PwDs were interviewed in Nyumanzi settlement in the ABACBA assessment with at least 1 individual represented in each PW conducted in both Nyumanzi and Rwamwanja settlements.

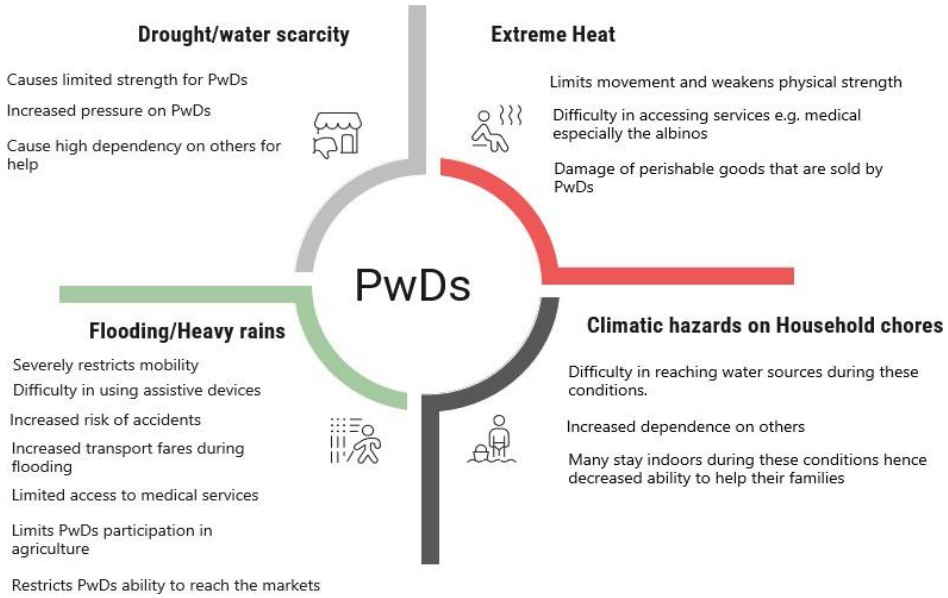
Regarding unpaid household labour, many PwDs in both locations manage tasks such as cooking, laundry, and compound cleaning, especially when the tasks are less physically intensive or can be done while seated. However, chores involving heavy lifting or mobility - such as fetching water or firewood - are often inaccessible, particularly for those with more severe physical impairments. In such cases, support from children, spouses, or neighbours becomes essential.

Impact of Climate-Related Hazards: Extreme heat, drought, and flooding significantly affect the ability of PwDs to carry out both income-generating and domestic work. Extreme heat limits movement and weakens physical strength, causing interruptions in business activities and household tasks. In all locations, flooding poses serious mobility challenges for PwDs, making it difficult to reach markets, health centres, or water sources. The use of assistive devices becomes more hazardous on slippery terrain, increasing the risk of falls and isolation. A PwD representative in Kampala City mentioned that floods notably limit the accessibility of health facilities as boda-boda (motorcycle taxi) fares increase due to the longer routes and greater difficulty navigating impassable roads.

In Rwamwanja refugee settlement, poor road conditions during heavy rains prevent timely access to medical services, particularly for those relying on crutches or wheelchairs. For business owners, flooding also affects customer movement. Those selling perishable goods also face rapid spoilage and financial losses, further undermining their economic resilience. In Rwamwanja refugee settlement, engagement in agricultural labour is minimal among PwDs due to the physically demanding nature of the work, particularly during periods of heat or heavy rains.

During drought, fetching water becomes more difficult for those with limited strength. Water scarcity, coupled with the physical strain required to access distant water taps, puts additional pressure on PwDs. Many resort to relying on children or paying others to help, further draining their budgets. In Rwamwanja refugee settlement, long distances and poor road conditions during floods and dry spells further isolate PwDs, preventing their participation in both livelihoods and daily chores.

Figure 5: Impact of climate related hazards on PwDs activities in Uganda



Coping strategies: To cope with climate-related challenges, PwDs adjust their schedules to work during cooler hours, rely on children or neighbours for water collection, and when possible, relocate to safer areas during flooding. In Kampala, different organisations offer limited but vital support, including financial and material aid. PwDs with albinism adopt protective strategies such as staying indoors for longer periods of time and minimizing outdoor activities. In Rwamwanja, the absence of close family increases PwD's dependence on friends and the wider community for survival during and after extreme weather events.

3.1.9 Education Sector

Across Kampala and Rwamwanja, education systems are increasingly disrupted by climate-related hazards. These events affect school infrastructure, attendance, teaching and overall educational quality, with certain vulnerable groups (children with disabilities, children from low-income households and refugee children) impacted more acutely.

Impact of climate related hazards on education: KIs reported that flooding has caused damage to school buildings, walls, and compounds in Kampala, Nyumanzi and Rwamwanja. Poor drainage systems, particularly in Kibuli and Kabalagala areas of Kampala, caused water pooling inside classrooms, destroyed learning materials, and forced learning activities to relocate. In Rwamwanja, flooded playgrounds and stagnant water create unsafe conditions. It has also led to delayed arrival of children to school, absenteeism, early departures due to fatigue, illness, impassable roads, and some school transfers due to parental concern. A KII respondent mentioned that the girls' attendance rate is lower than the boys because girls were more discouraged by harsh weather conditions.

> *"Flooding has damaged classrooms and school compounds, especially in Kibuli and Kabalagala, where poor drainage systems direct water into school premises, this has disrupted class sessions several times"* - KII respondent, Kampala City (Uganda)

Educators are also impacted by climate hazards. Urban educators in Kampala noted facing significant delays caused by flooding, a lack of adequate transportation options, and damage to both educational facilities and personal residences. Rural teachers similarly mentioned experiencing the effects of hazards, including rainfall-related travel delays and physical exhaustion from extreme heat. Climate related hazards can also impact the quality of instruction provided to students. Storm-related roof noise disrupts classroom instruction, forcing educators to rely heavily on written rather than verbal instruction methods. Damaged books, delayed lessons, and inadequate syllabus completion in Kampala further deteriorate the quality of instruction. Heat-induced fatigue coupled with limited access to water diminish both student concentration and the overall effectiveness of school lessons. Teaching professionals adapt through routine adjustments, but challenges persist. Incomplete lesson delivery and student absenteeism remain widespread concerns across both contexts.

Respondents in neither location reported long-term school closures. In Rwamwanja, respondents noted that temporary one-day closures due to heavy rain are common. In Kampala, respondents noted that schools remain open despite frequent disruptions. Parents in both locations remain strongly committed to education. In Kampala, safety concerns linked to flooding have led some families to relocate, while relocation may primarily reflect infrastructure and safety issues at school or within surrounding environments, it also carries broader implications as children must adapt to new environments, social settings, and educational systems, which may affect both their academic progress and psychosocial wellbeing. Families generally continue investing in school-related expenses despite hardships. In Rwamwanja, key informants mentioned that children are sometimes temporarily pulled out of school to assist with family livelihoods as a coping mechanism.

3.2 KENYA - CLIMATE HAZARDS IN CONTEXT

3.2.1 Overview of the Climate Related Hazards

Kenya faces recurring climate-related hazards such as droughts, floods, and extreme heat, with vulnerable populations in Turkana, Garissa, and Nairobi counties particularly affected. This section presents findings on climate-related hazards identified and perceived by communities in **Kibera slum** in Nairobi City and **Dadaab** and **Kakuma** refugee camps in **Garissa** and **Turkana Counties** respectively.

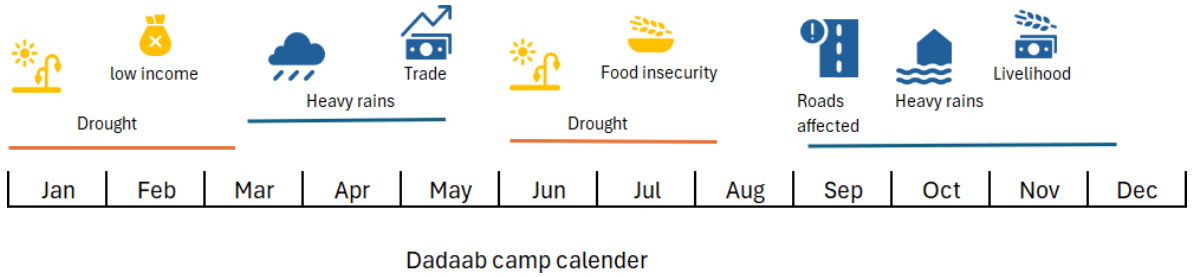
Climatic Profile of Kenya's Refugee-Hosting Areas

Kenya's refugee-hosting regions, particularly **Kakuma refugee camp** (Turkana County) and **Dadaab refugee camp** (Garissa County), experience a bimodal rainfall pattern with two rainy seasons (April–May and October–December) and two dry seasons (January–March and June–September) according to the seasonal calendar report from the PWs. However, the climate in these areas is increasingly erratic, marked by prolonged droughts, rising temperatures, and intensifying floods.

Kakuma refugee camp is in Kenya's semi-arid northwest and faces frequent water shortages and limited agricultural potential, while Dadaab refugee camp in the northeast is highly exposed to flooding and infrastructure breakdown, especially during the rainy season.

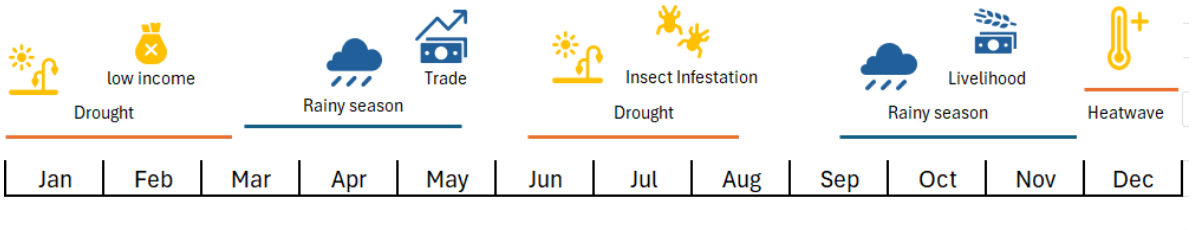
Seasonal calendar data shows shifting rainfall timing, with delayed planting, reduced harvests, and increased disruptions to daily life, particularly for refugees reliant on informal livelihoods and humanitarian aid. These patterns reflect a growing vulnerability to climatic shocks across Kenya's refugee-hosting areas.

Figure 6: Seasonal calendar for Dadaab camp in Kenya



Dadaab camp calender

Figure 7: Seasonal calendar for Kakuma camp in Kenya



Kakuma camp calender

Key Climate Hazards Reported

Communities in Kakuma refugee camp, Dadaab refugee camp, and Kibera slum consistently reported four key climate hazards:

- Extreme heat

- Drought/water scarcity
- Flooding
- Cold weather/dust storms

These hazards were reported across KIIs with health workers, education staff, local government, NGOs, PwDs and community leaders**.**

Extreme Heat

Extreme heat was the most consistently reported hazard across all sites and sectors. It typically peaks during the dry seasons (January–March and June–September) and affects daily routines, school attendance, health, and outdoor economic activity. Education and health respondents noted that high temperatures impact learning environments and increase health-related complications such as dehydration and fatigue, particularly among children and vulnerable groups. Market vendors, informal workers, and casual labourers often reduce working hours during peak heat due to physical exhaustion and reduced customer turnout.

Drought and Water Scarcity

Drought, closely linked to extreme heat, was identified as a major climate stressor, particularly in Turkana County (Kakuma refugee camp) and Garissa County (Dadaab refugee camp). Prolonged dry periods affect water availability for both domestic use and livestock, heightening food insecurity and health vulnerabilities. Community and local government representatives reported crop failures, depleted water sources and declining pasture, with negative impacts on both agricultural and casual labour opportunities. Access to clean water becomes more difficult, often requiring longer travel distances or reliance on poor-quality sources, especially affecting women, children, and PwDs.

Flooding and Heavy Rainfall

Flooding was widely reported during the rainy seasons (March–May and October–December), particularly in low-lying areas like Dadaab refugee camp. Local government and NGO representatives reported that floods have damaged shelters, disrupted road access, and washed away essential infrastructure such as latrines and schools. KIs also noted that health risks, particularly waterborne diseases like cholera and diarrhoea, increase during flood seasons. Education sector KIIs reported disruptions to school attendance due to flooded compounds and impassable roads.

Cold Weather and Dust Storms

While not as widespread as the other hazards, cold weather was reported in Kibera, particularly during rainy periods. Some respondents described it as a new or worsening condition impacting child and elderly health. In Dadaab and Kakuma camps, respondents mentioned dust storms, especially during dry seasons. These dust storms contribute to respiratory health issues and reduce visibility and safety in outdoor work environments.

3.2.2 Livelihoods Activities and Impact of Climate Related Hazards

This section provides insights into the key livelihood strategies utilized by refugee and host communities residing in Dadaab camp, Kakuma camp, and Kibera slum, drawing specifically from information gathered through KIIs and PWs. Respondents identified the following as primary sources of income:

- Pastoralism

- Small businesses
- Casual labour
- Small-scale agriculture

Pastoralism

Pastoralism, particularly livestock keeping, emerged as a central livelihood activity in Kakuma and Dadaab camps. Nomadic pastoralism was specifically mentioned by respondents from Kakuma camp alongside trade in livestock such as goats. Cultural practices and ample grazing land contribute to pastoralism's dominance in these areas. There is reduced pasture availability, and significant livestock mortality due to different climatic hazards, which subsequently increased food insecurity and economic strain. The scarcity of water and pasture sometimes triggered community conflicts as pastoralists migrated to access these resources and risk the increased the spread of livestock diseases.

> *"In the dry season, we feed our animals with leftovers or human food, anything we can find, just to keep them alive.''* - PW respondent, Kakuma camp (Kenya)

Small Businesses

Small-scale entrepreneurial activities play a crucial role in sustaining livelihoods across the three assessed areas. Common businesses include selling goods such as goats, firewood, vegetables, cereals, and clothing. Service-based enterprises, including water distribution and boda-boda (motorcycle taxi) services, are also important. In Kakuma camp, entrepreneurship in textiles, arts, and beadmaking was notably emphasized.

In Kibera slum, popular small businesses include selling vegetables, cereals and clothing, alongside transport services and garbage collection.

Respondents indicated that small businesses in Kakuma camp, Dadaab camp, and Kibera slum were particularly impacted by extreme weather events such as heat, drought, and flooding. High temperatures reportedly reduced productivity, accelerated spoilage of perishable goods, and lowered customer turnout, reducing sales and, ultimately, income. Flooding was highlighted as especially destructive, damaging market stalls, washing away merchandise and disrupting transportation and customer access, particularly affecting vendors in Kibera slum.

During droughts, businesses reliant on water - such as car washes, hotels and food vendors - faced increased operational costs or were compelled to close temporarily due to water shortages. This limited the availability of water-dependent products, negatively affecting sales and contributing to financial insecurity. Respondents further linked these disruptions to increased poverty, unemployment, and increased incidents of crime and theft.

Casual Labour

Casual labour constitutes an essential livelihood component across all settlements. It encompasses various short-term and informal tasks such as construction, cleaning services, laundry and general day labour. Kibera slum respondents specifically highlighted domestic services like house cleaning and laundry as key forms of casual employment.

In Dadaab and Kakuma camps, casual labour included construction work and incentive-based employment opportunities.

Casual labourers, typically involved in construction, transportation and informal work, were described as facing severe disruptions due to climate hazards. Excessive heat reportedly led to dehydration, fatigue, and skin-related illnesses among workers, reducing productivity and causing absenteeism and income loss.

During drought conditions, activities dependent on water such as construction, were halted or reduced in frequency. Workers experienced diminished physical capacity due to heat stress, further impacting productivity. Floods introduced additional challenges, including damage to construction materials, restricted site access, and increased workplace hazards leading to injuries and accidents.

Small-Scale Agriculture

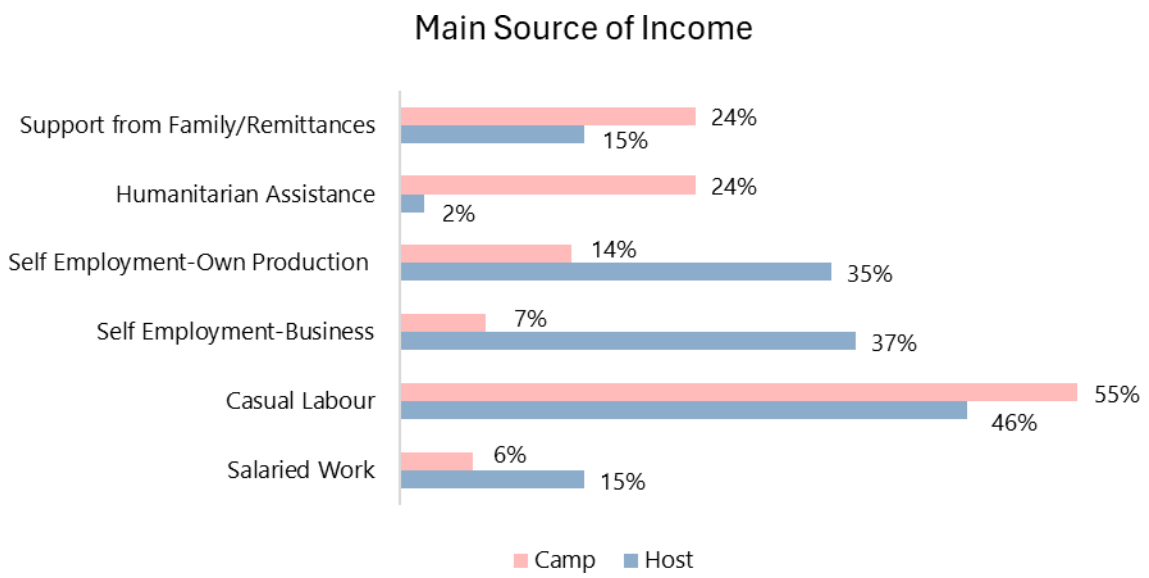
Small-scale agriculture, including agro-pastoralism and agribusiness, was identified as an important livelihood activity, especially in Dadaab. Additionally, seasonal agricultural activities such as beekeeping were noted as supplementary sources of income and sustenance.

Participants reported that drought, flooding, and extreme heat severely affected agro-pastoral livelihoods. They noted drought conditions resulted in widespread crop failure,

Flooding also reportedly caused extensive damage to crop, washed away seedlings, contaminated water sources. Additionally, infrastructure critical to agriculture was often damaged by flooding, compounding the longer-term impacts on productivity.

The findings above have further been supported by the Kenya Multisector Needs Assessment (MSNA) 2025 which listed the above as the main sources of income. Most of the income sources are temporary and susceptible to climate hazards undermining long term self-reliance. In addition, the income received - **host KES 11,336** and **camp KES 6,982** in the 30 days prior to data collection - is below the Minimum Expenditure Basket (MEB) of **KES 19,613**. This limits the ability to consistently access food and other basic services; hence households must use various negative coping mechanisms - such as withdrawal of children from school - to survive.

Figure 8: Kenya MSNA 2025 main sources of income - Kenya



3.2.3 Community Adaptation and Response Strategies

Communities across refugee-hosting areas in Kenya including Kakuma camp, Dadaab camp, and Kibera slum have employed diverse adaptation strategies to cope with the increasingly severe effects of climate-related hazards on their livelihoods. These responses show various proactive efforts to sustain income generation and daily survival.

Shifted routines and labour strategies: PW respondents reported that households and businesses have altered daily routines to cope with extreme weather. Vendors and casual labourers in Kakuma and Dadaab camps operate during cooler hours, either early in the morning or late evening, to avoid peak heat. In some cases, labourers work in shifts, reduce workloads, or accept lower pay. Casual labourers also avoid walking long distances and hydrate frequently. Employers reschedule work and use protective gear like hats and helmets to ensure worker safety and productivity during extreme heat.

Water and food management: Adaptations include storing water in containers, purchasing water tanks, and practicing water conservation. Communities reuse water for various activities, including keeping vegetables fresh or for livestock. Food is stored in cool spaces or refrigerators where available. In some instances, people buy food in bulk before anticipated hazards can occur. Households in flood-prone zones build cooking areas on raised ground and practice soil harvesting to stabilize their compounds.

Modified livelihood practices: Entrepreneurs shift to alternative businesses during extreme conditions, stock items that do not require water, or sell goods from home to maintain customer access. Agricultural households adopt irrigation practices, harvest early, or rent pastureland. During drought, pastoralists feed livestock with alternative foods (including human food), sell animals in advance, or use zero grazing. Migration in search of resources or safer locations is common among both livestock keepers and casual workers.

Protective infrastructure and tools: To counter floods and heat, small business owners create shaded stalls, relocate to elevated areas, and store goods in raised or waterproof locations. Community-level infrastructure improvements include constructing terraces, gabions, and canals. There are efforts to block or redirect waterways and build drainage systems. In informal settlements like Kibera slum, adaptation also includes shifting school schedules and building flood-resilient education spaces.

Collective action and informal networks: Some communities foster unity through informal savings schemes like merry-go-rounds and mutual aid. Business owners provide goods on credit to maintain clientele during difficult times. Others appeal to government and NGOs for water provision and business recovery. In Dadaab and Kakuma camps, participants reported efforts to educate the community on water management, tree planting, and flood preparedness.

A notable difference in adaptation strategies between Kakuma and Dadaab camps lies in their flood management approaches. While Kakuma camp communities focus on constructing terraces, canals, and natural erosion barriers, residents in Dadaab camp prioritize raising shelters, using sandbags, and trenching around homes to divert floodwater.

Risky and Harmful Coping Strategies

In response to climate-related stressors communities across Kakuma camp, Dadaab camp, and Kibera slum have reported adoption of some harmful or risky coping strategies with far-reaching social, health and environmental consequences.

When climate shocks disrupt income-generating activities, individuals, especially youth and working-age adults' resort to alternative means of earning that are often unsafe, illegal, or exploitative:

- Petty theft, robbery, and mugging, particularly in Kakuma camp and Kibera slum, as a response to sudden loss of income.
- Drug dealing, bhang (marijuana) sales, and alcohol brewing, which are on the rise, especially among unemployed youth.
- Charcoal burning and deforestation, frequently reported in Dadaab and Kakuma camps, lead to environmental degradation while offering short-term income.
- Unsafe mining and sand harvesting, especially in Naduat and Kalobeyei, where men and youths engage in physically dangerous work without protective equipment.
- Commercial sex work and transactional sex, reported in Kibera slum and Kakuma camp, where women and girls engage in sex work or exchange sex for survival items like food, water, or financial support.
- Radicalization and recruitment into criminal gangs or extremist networks, particularly mentioned in Dadaab camp as a risk among unemployed or frustrated youth.
- Engagement in illegal cross-border trade, such as smuggling contraband goods from neighbouring countries.

Social Disruption and Radicalization: In Dadaab camp, there were concerning reports of radicalization and criminal recruitment among disillusioned or desperate youth, fuelled by unemployment and limited access to education and opportunities. Both are facets of life which are in part impacted by climate shocks.

These negative coping mechanisms illustrate the compounded vulnerabilities faced by communities during climate-related shocks and highlight the urgent need for sustainable, protective, and inclusive adaptation strategies.

Support from Government and Development Actors

Government authorities and development organizations across Kenya's refugee-hosting areas have implemented various strategies to help communities cope with and recover from climate-related hazards. These efforts span livelihood recovery, environmental management, infrastructure support, and social protection, with interventions tailored to local contexts.

In Kibera slum, support primarily focuses on urban agriculture and small-scale enterprise development. Local organizations have distributed seeds, tools, and pesticides, and provided technical guidance in collaboration with the Ministry of Agriculture. Initiatives such as water recycling for farming and the establishment of tree nurseries promote sustainable practices. Beneficiaries also receive training in crop production, poultry farming, and hospitality, alongside access to grants and capacity building on business value chains.

In Kakuma refugee camp, interventions emphasize business stabilization and youth empowerment. Development actors support women to restart businesses through flexible loans, training, and job placements. Vocational training in smart agriculture and water conservation is provided, and flood/drought resilience programmes are implemented. Youth receive education on sexual and reproductive health, while out-of-school adolescents benefit from accelerated learning and leadership mentorship to deter gang involvement.

In Dadaab refugee camp, efforts have concentrated on youth financial inclusion and emergency relief. Training is offered in poultry farming, biogas production, and waste collection. Mentorship programmes support youth and girls, especially those affected by exploitative coping strategies such as sex-for-water. During floods, both food and non-food items are distributed, and affected

households are linked to affirmative funds to restore livelihoods. Awareness campaigns address issues of gender-based exploitation and support survivors with psychosocial and livelihood assistance. Across all three sites, local government authorities contribute through awareness campaigns, stakeholder coordination, and youth employment, such as, the Green Army initiative, which engages youth in climate resilience through tree planting and garbage collection as well as infrastructural projects such as borehole construction in Turkana County. They also facilitate connections with NGOs and humanitarian agencies for targeted relief and recovery support.

Overall, while the focus and scale of interventions vary by location, efforts collectively aim to strengthen community resilience, promote safer livelihoods, and mitigate the long-term effects of climate-related disruptions.

3.2.4 Unpaid Household Labour and Impact of Climate Related Hazards

In both **Kakuma and Dadaab refugee settlements**, unpaid household labour is central to daily survival, with distinct gendered roles and responsibilities. Women and girls typically undertake most of these activities, including cooking, cleaning, washing clothes, collecting water and firewood, and providing childcare. Men and boys are also involved, particularly in water and firewood collection, constructing basic infrastructure (such as water channels and shelters), and managing flood response at the household level. The intensity and burden of this labour is closely tied to seasonal climate events, which shape access to basic resources and affect how tasks are carried out.

Figure 9: Gendered responsibilities (Kenya)

Unpaid household labour is highly sensitive to climate shocks in Kakuma and Dadaab camps, with each hazard affecting activities in different but overlapping ways:

Cooking and Food Preparation: Cooking becomes more labour-intensive during climate hazards. In extreme heat, preparing meals exposes women and girls to fatigue, dehydration, and heat-related illnesses in poorly ventilated kitchens. During drought, water scarcity limits hygiene and increases fire risk from dry fuel. Flooding damages kitchens and contaminates food supplies. Soaked firewood and collapsed cooking structures often force women to cook outdoors or in unsafe improvised spaces, increasing the burden and health risks.

Fetching Water: Water collection is particularly demanding during droughts and heatwaves. Drought leads to scarce water sources, requiring longer trips and queues under intense heat. High

temperatures increase the need for water while making the physical effort more exhausting. During floods, access points are often cut off or contaminated, requiring detours in hazardous conditions and increasing exposure to disease.

Firewood Collection: Firewood becomes harder to gather during droughts as vegetation dries up, requiring longer distances and exposing women and boys to heat stress and safety risks. Flooding also creates challenges as firewood becomes waterlogged, necessitating extra effort to find usable fuel.

House and Compound Cleaning: Extreme heat and drought cause dust accumulation, requiring women and children to sweep repeatedly throughout the day. Drought limits water for cleaning, compromising hygiene. Floods, on the other hand, bring mud, trash, and debris into homes, creating unsanitary conditions that demand strenuous, frequent cleaning. Cleaning supplies are often damaged or lost during floods, and the effort to maintain hygiene becomes overwhelming.

Laundry and Clothes Drying: Laundry is severely disrupted across all hazards. During drought and heat, limited water requires rationing or reuse for washing, while strong sun exposure quickly soils clothes with dust and makes fabrics deteriorate faster. During floods, drying spaces are often flooded or damp, causing clothes to stay wet for days or be swept away, increasing skin infections and replacement costs.

Childcare: Care responsibilities are heavily strained during climate shocks. In heatwaves, caregivers must manage children's dehydration, skin rashes, and respiratory issues. Drought increases malnutrition risk, requiring more caregiving time as children become ill. During floods, children are exposed to waterborne diseases such as malaria and diarrhoea, while mobility restrictions prevent caregivers from maintaining clean and safe environments.

3.2.5 Community Adaptation and Response Strategies

Shifted routines and labour strategies: In both Kakuma and Dadaab refugee camps, households adapt to extreme heat and drought by shifting the timing of daily activities. Tasks such as fetching water, cooking, and washing clothes are scheduled for early morning or late evenings to avoid peak heat hours. Community members wear light clothing, use shade or umbrellas, and reduce strenuous chores during hot periods. In Kakuma, some families relocate to areas with better water access or hire motorbikes and use wheelbarrows for water transport. In Dadaab camp, households switch from firewood to charcoal or gas and reduce the number of meals prepared daily to conserve resources during drought or floods.

Water and food management: Both communities prioritize water harvesting, storage, and reuse. Rainwater collection is common, and water is boiled or treated before use. In Kakuma camp, food is cooked earlier and stored to reduce exposure to heat and flooding. Dadaab camp communities improve food preservation by using cooling mechanisms such as refrigerators and sprinkling water to combat the surrounding temperatures. In flood-prone areas, food and cooking materials are stored on raised platforms to avoid contamination and loss.

Modified caregiving and childcare practices: To manage risks to children, caregivers in both sites limit outdoor activities during harsh weather, dress children warmly during floods, and create shaded rest areas during heatwaves. In Kakuma camp, children are kept in open, shaded environments, while in Dadaab, mosquito nets and raised bedding are used to protect them from illness. Breastfeeding is prolonged during food scarcity, and children are sent to school not only for learning but also to access meals. Older children often assist with household chores when adults are overwhelmed.

Shelter improvement and protective infrastructure: Communities in both sites enhance their resilience through shelter adaptations. These include constructing ventilated kitchens, using soil to block water pathways, and building raised platforms for storage. In Dadaab camp, trench digging,

waterway diversion, and reinforcement of structures are practiced managing flood risks. Kakuma camp households modify kitchens and construct shade for livestock.

Collective action and family support: Household members, including children and extended family, collaborate to share burdens, especially during peak climate stress periods. Tasks such as water collection, washing, and cooking are redistributed to balance labour. Some households engage in communal efforts like maintaining drainage or supporting each other during displacement**.**

Risky Coping Strategies Linked to Household Labour

Climate-related disruptions to water access, food preparation, and sanitation have pushed households particularly women, children, and persons with disabilities into coping practices that can be harmful or exploitative:

- **Sex-for-water practices**, where women and girls are reportedly coerced into transactional relationships at water points, especially in Kakuma and Kibera camps.
- **Children traveling long distances to fetch water**, exposing them to risks of injury, assault, and exhaustion, particularly during extreme heat or floods. Increasingly, children are being withdrawn from school to support household chores and water collection.
- **Reported exploitation of women in domestic roles**, where men - including husbands or other individuals - demand sex or other favours in exchange for assistance with rebuilding homes or restarting small businesses after floods.
- **Overburdening of women and girls**, who face fatigue, injuries, and increased disease exposure (such as malaria and diarrhoea) due to extended caregiving during climate stress.
- **School dropout among children**, especially girls, who are tasked with additional unpaid care work or water collection during crises.

3.2.6 Suggested Solutions

Communities in both Kakuma and Dadaab refugee camp proposed a range of practical, infrastructural, and institutional solutions to mitigate the impacts of climate-related hazards on household labour and livelihoods. These include improvements to water access, shelter, cooking methods, childcare, and environmental management. Many recommendations emphasize the need for humanitarian support, awareness creation, and gender-sensitive programming.

Household Infrastructure and Resource Management: Households in both settlements highlighted the need for improved shelter structures that can withstand extreme weather. This includes well-ventilated and elevated kitchens, shaded washing and cooking spaces, and resilient housing to prevent floodwater entry. Communities proposed the installation of solar systems, energy-saving stoves (*'jikos'*), and charcoal/gas alternatives to reduce dependence on firewood, limit deforestation, and improve indoor air quality. In both Kakuma and Dadaab camps, home water storage tanks, boreholes, and drainage systems were suggested to manage water supply and mitigate flood risks.

Water and Sanitation (WASH) Solutions: Improved water infrastructure was a key priority. Communities called for drilling of new boreholes, construction of water kiosks, and connection of water lines to households. For flood-prone areas, the construction of bridges, drainage channels, and raised water points was recommended. Households also requested point-of-use water treatment systems and materials to ensure safe drinking water during emergencies. WASH-related items such as mosquito nets, hygiene kits, and improved access to clean water were emphasized to prevent disease outbreaks during floods.

Livelihood and Cooking Adaptations: To reduce climate-related disruptions to cooking and livelihoods, both sites proposed using solar energy, clean cooking fuels, and climate-smart agriculture techniques. Building raised kitchens, community water points, and supporting tree planting were viewed as essential for managing both heat and flood risks. Communities in Kakuma camp highlighted the need for resilient food storage, promotion of climate-resilient crops, and collective fundraising for boreholes, while Dadaab camp respondents emphasized investing in cooling systems and food reserves.

Childcare and Gender-Sensitive Support: Households recommended improving access to childcare providers and support, particularly for female-headed households. This would ease the burden on women during climate stress and enable income-generating activities. Both communities also suggested increased education and awareness on child health and managing heat-related illnesses, and provision of nutritious food in schools. In Dadaab camp, there were calls for improved healthcare systems and child-focused safety measures during floods (e.g., fencing water catchment areas). In Kakuma camp, emphasis was placed on protecting children from heat, ensuring clean water for infants, and keeping them indoors during storms.

3.2.7 Demographic and Livelihood Group Impacts

Gendered Impacts

Across all sites of Kakuma camp, Dadaab camp, and Kibera slum women - especially those heading households - have been disproportionately affected by extreme weather events. In female-headed households, caregiving and income-generating responsibilities fall on the same individual, exacerbating stress and reducing resilience. For instance, in Kibera slum, floods force women to stay home to care for children and the sick, often leaving families without food or income.

Pregnant and lactating mothers face heightened health risks during periods of heat and drought due to dehydration, poor access to healthcare, and lack of clean water. In both Kakuma and Dadaab camps, heat exposure has been linked to reduced breastmilk production and increased child illness, adding to women's unpaid caregiving burdens.

Gender-based violence (GBV) and sex-for-survival coping strategies were also reported in Kibera slum and Kakuma camp, particularly during water shortages, with young women and girls being disproportionately targeted.

Livelihood Group Differences

Extreme climate events have had diverse effects on various livelihood groups:

- **Casual labourers**, including masons, carpenters, and construction workers, face job losses during floods and heatwaves. In Kakuma camp, young people relying on daily wages are especially vulnerable to income disruptions.
- **Informal vendors**, such as market traders, street hawkers, and vegetable sellers, are adversely affected in all sites. Floods in Kibera slum spoil perishable goods, while dust storms and heat in Kakuma camp reduce customer turnout. Food vendors are at risk of heatstroke and respiratory illnesses, sometimes resulting in forced business closures.
- **Boda-boda (motorbike) riders and taxi** operators suffer income losses when rains and strong winds impede mobility. In Kibera slum, riders were forced to shift to fetching water to make ends meet.

- **Pastoralists and livestock herders** in Kakuma and Dadaab refugee camps face challenges from both heat and drought, including dehydration risks and loss of pasture, impacting livestock survival and income generation.
- **Persons with disabilities and the elderly** are consistently highlighted as among the most at-risk groups. Limited mobility makes it difficult for them to access services, evacuate during floods, or adapt to shifting livelihood demands.
- **School-going children** suffer from increased absenteeism due to impassable roads during floods and illnesses during extreme heat. In Dadaab camp, economic pressure on families leads to child dropouts and missed school meals.

3.2.8 Persons with Disabilities (PwDs)

Persons with disabilities (PwDs) - just like all other respondents – were affected by the ever-changing climatic conditions of extreme heat, drought/water scarcity and floods/heavy rain**.**

Table 4: Number of PwDs interviewed in Kenya[44]

	Kenya			
Categories	**Dadaab refugee camp**	**Kakuma refugee camp**	**Kibera slum**	**Total**
Refugees	1	1	1	3
Host community	1	1	1	3
Total	**2**	**2**	**2**	**6**

Participation in Livelihoods and Household Labour: Across Kibera slum, Kakuma and Dadaab refugee camp, PwDs are actively engaged in various livelihood activities, especially those that require lower physical exertion or allow work to be conducted close to home. In Kibera slum, tailoring and bead-making were noted as particularly accessible forms of income generation, while in Dadaab camp some PwDs are involved in trading or small-scale agriculture, although climate events often disrupted these activities. Across all sites, PwDs often engage in household chores such as cooking and water collection, though these tasks become increasingly challenging during extreme heat or flooding. Many rely on support from family or neighbours, especially when mobility is restricted.

> *''PwDs have been seen as a source of livelihood for families through the adoption of various means such as begging, and as a result, they have been denied the chance for self-reliance.''* - PwD representative in Dadaab camp (Kenya)

Impacts of Climate-Related Hazards: Extreme weather events particularly heat, droughts, and floods have profound impacts on the ability of persons with disabilities to carry out both livelihood and domestic tasks. In Kakuma and Dadaab refugee camps, excessive heat causes fatigue, limits physical activity, and increases health risks such as dehydration, making routine tasks more difficult. Flooding,

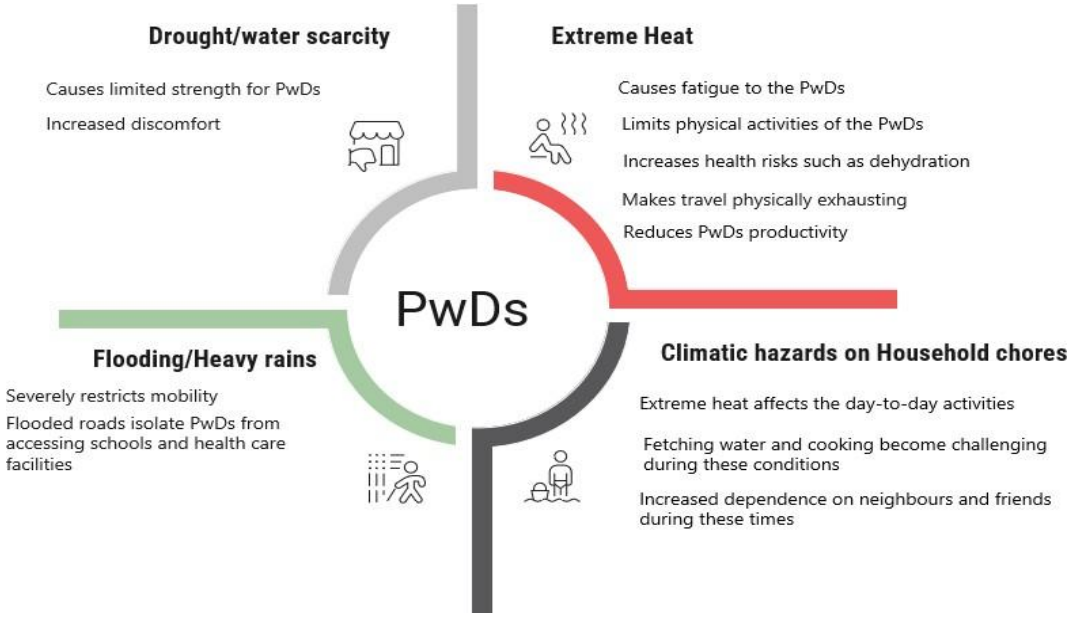
[44] NB: Other PwDs participated in the PWs at least one in each session conducted as respondents.

especially in Kakuma camp, which severely restricts mobility, making it harder for PwDs to access communal spaces, markets, schools and health services.

Across all three sites Kakuma, Dadaab camps, and Kibera slum PwDs face heightened barriers to accessing essential services during climate shocks. Flooded roads in Kakuma camp isolate PwDs from schools and healthcare facilities, while in Kibera slum, extreme heat makes travel physically exhausting, often discouraging movement and access to services. In many cases, PwDs rely more heavily on family or community members for support during such periods.

Livelihoods were also disrupted. In Dadaab camp, heat was reported to reduce the productivity of PwDs and by extension limited their interaction with customers. In Kakuma camp, poor infrastructure and flooding can halt entire market operations. In Kibera slum, extreme heat negatively affects small-scale businesses such as tailoring and beadwork, leading to reduced income and increased economic vulnerability.

Figure 10: Impact of climate related hazards on PwDs activities in Kenya



Coping and Adaptation Strategies: To cope with these challenges, PwDs and their families adopted a range of adaptive strategies. These include modifying daily routines to avoid peak heat hours, relying more heavily on support from neighbours or family, and shifting to tasks that can be performed indoors or during cooler periods. In Dadaab slum, some adapt agricultural practices by focusing on drought-resistant crops or reducing physically demanding work. Community support networks are a crucial resource, especially during periods of crisis when personal mobility is reduced.

Overall, PwDs in Kibera slum, Kakuma and Dadaab refugee camps are active contributors to household and community life but remain highly vulnerable to the impacts of climate-related hazards. Their participation in livelihoods and household labour is frequently disrupted by extreme weather, and they experience greater barriers in accessing services and resources compared to other groups. Social support and adaptive scheduling play an essential role in enabling PwDs to maintain some level of independence and resilience in the face of ongoing climate challenges.

> *''Roof-top gardening is one of the initiatives that has been embraced by PwDs in Kibera. This is because of the ability to access food without straining a lot and depending on people''.* - PwD organisation in Kibera slum (Kenya)

3.2.9 Education Sector

Across Kibera, Kakuma and Dadaab refugee camps, education systems have been heavily affected by climate-related hazards, particularly extreme heat, drought, and flooding. These impacts are observed across school infrastructure, attendance, teaching conditions and learning outcomes.

Impact of Climate Related Hazards on Education

Floods have damaged school buildings, collapsed roofs, destroyed latrines, and rendered school grounds unusable, especially in Kakuma and Dadaab camps. In Kibera slum, broken drainage systems, dust, and the collapse of nearby homes expose learners to constant safety risks. These impacts on infrastructure have not only interrupted learning but also created unsafe and unsanitary environments that threaten students' wellbeing.

Attendance was found to be highly sensitive to seasonal shifts. Flooded or impassable roads, water scarcity, and heightened household demands especially during crises cause frequent absenteeism, with girls, and children from poor or female-headed households, most affected. In Kakuma and Dadaab refugee camps, students often attend in shifts or drop out temporarily to help with domestic work or income-generating tasks. In Kibera slum, disease outbreaks linked to water shortages - alongside limited adequate sanitation and school infrastructure - further limit regular attendance.

> *''In Kibera, when it floods, children can't go to school. We need classrooms that can handle the water, not fall apart''.* - KI respondent, Kibera slum (Kenya)

Teachers are similarly affected by climate shocks. Floods and the resulting poor road access delay commutes or make travel impossible. In Dadaab slum, some walk through flooded areas, while in Kakuma camp and Kibera slum, hunger and heat lead to low energy levels, early dismissals or absenteeism. Female teachers bear additional burdens during crises, managing both caregiving responsibilities and teaching. The combined effect of teacher and learner absenteeism reduced class hours, and classroom discomfort has lowered concentration and disrupted syllabus coverage, diminishing overall learning quality.

Despite these challenges, schools and communities have adopted coping mechanisms to sustain learning. These include rotating attendance schedules, adjusting lesson times to cooler parts of the day, and sharing caregiving roles among teachers. NGOs and government actors have also provided critical support such as scholastic materials, school repairs, and awareness campaigns to promote continuous education access during extreme weather periods and reduce dropout rates, particularly among vulnerable children.

4. RECOMMENDATIONS

Uganda

For Donors such as FCDO

- Invest in long-term, climate-resilient livelihood programming targeting both host and refugee communities, with flexibility to respond to different climate hazards (extreme heat, drought/ water scarcity, floods/heavy rains, and strong winds/storms).
- Support the development and scale-up of inclusive, locally led adaptation initiatives, including community-managed irrigation systems, early warning systems, and disaster preparedness mechanisms. Work hand in hand with the Uganda National Meteorological Authority (UNMA) to ensure the information needed for the early warning outputs is available.
- Fund gender and disability-responsive interventions, recognizing the disproportionate burden of unpaid household labour and climate shocks on women, girls, and persons with disabilities (PwDs).
- Strengthening coordination with national and local governments to align donor-funded programs with national climate priorities and refugee response frameworks.

For UN Agencies, International Organizations and NGOs.

- Promote integrated programming across different sectors such as climate resilience, livelihoods, protection, and WASH in refugee-hosting areas to avoid isolated interventions.
- Support harmonized climate vulnerability and climate risk assessments,[45] this should be localized data collection in both refugee and host contexts to inform evidence-based planning.
- Utilize mandate to support cross-border and regional coordination in addressing shared climate risks across Uganda and Kenya, including displaced populations.
- Advocate for and model inclusive programming, ensuring PwDs, youth, refugees and marginalized host community members are actively included in resilience-building efforts. Communities are often involved in planning, however their role in implementation, monitoring and evaluation should be further strengthened.

For National and District Governments

- Mainstream climate adaptation into development and refugee response plans, especially at subnational levels where implementation gaps exist.
- Invest in decentralized climate services and early warning systems, including community training and equipment for localized forecasting and hazard response. Continue to work with the Uganda National Meteorological Authority (UNMA) to receive timely updates on climatic conditions for each region and district to support effective intervention.

[45] Vulnerability assessment identifies the most vulnerable groups based on their exposure, sensitivity, and ability to cope with climate risks, focusing on the social and economic factors driving vulnerability and climate risk assessment which focuses on forecasts of future climate risks, evaluating the probability of hazards and their impact on populations, infrastructure or ecosystems.

- Strengthen enforcement and support for environmental conservation, including reforestation, flood – prone area management, and afforestation in fragile refugee and host community areas.
- Enhance access to affordable extension and veterinary services and ensure that subsidies and resilience support reach both refugee and host community farmers.
- Expand and maintain water and market infrastructure, particularly in drought and flood prone regions, to support both agricultural and informal sector resilience.
- Support community-led, non-donor reliant initiatives to strengthen local climate resilience, especially in the context of reduced donor funding. For example, scaling up refugee-host Village Savings and Loan Associations (VSLAs) to finance small-scale adaptation projects, promoting community tree-planting groups to rehabilitate degraded land, and empowering water management committees to maintain local water points. These efforts should be anchored in local governance structures and traditional knowledge systems to ensure sustainability beyond external support.

Kenya

For National and County Governments

- The Refugees Act (2021), through the Shirika Plan, promotes a shift toward refugee self-reliance by integrating refugees into national systems and supporting their access to services and economic opportunities. However, freedom of movement remains a contentious and unresolved issue, as refugees are still expected to reside in designated settlements in Kakuma and Dadaab refugee camps. This restricted mobility limits their access to land, diversified livelihood opportunities, and higher education. As a result, many refugees remain confined to informal, low-paying, and insecure livelihood opportunities. There is therefore need for the Act to be implemented.
- Amend the Climate Change Act (2016, amended in 2023), National Adaptation Plan (NAP) and County Integrated Development Plans (CIDPs) to include refugee-specific climate adaptation strategies. Despite residing in climate-vulnerable areas, and both counties acknowledging the presence of refugees in their strategies, there is no detailed planning that explicitly integrates refugee needs concerning livelihoods and climate resilience.
- Expand and maintain critical infrastructure, including roads and electrification, to strengthen connectivity and support economic activities. For example, improved infrastructure in Dadaab camp would be a key driver for enhancing livelihood opportunities.
- Integrate climate change knowledge and skills into school curricula to help learners understand the potential impacts and explore alternative livelihoods, particularly in pastoral areas.
- Strengthening locally led and sustainable solutions in response to reduced donor funding. Community ownership and participation should be prioritised to ensure long-term impact and continuity of initiatives. This includes working through county governance structures, refugee-led organizations, and community knowledge systems to anchor climate-related interventions in local realities and enhance their relevance and effectiveness.

- Establish dedicated budget lines for youth and persons with disabilities to promote equitable participation in climate adaptation planning and implementation. These allocations should align with national frameworks such as County Climate Change Funds (CCCFs), which emphasize inclusivity and participatory development. An embedded monitoring and evaluation (M&E) framework should track both financial disbursement and engagement levels to strengthen social equity in climate action.

For UN Agencies, International Organizations and NGOs

- Focus on Technical and Vocational Education and Training in refugee camps and host communities, as a source of alternative livelihoods away from climate-dependent livelihoods, including digital literacy.

- Advocate for the adoption and effectiveness of alternative cooking solutions (e.g., energy-efficient stoves, solar cookers, and briquettes) in reducing environmental degradation and the cutting of trees.

- Review existing climate hazard response mechanisms within refugee and host communities to identify gaps in preparedness, early warning systems, and coordinated emergency response.

- Conduct capacity building sessions for county governments to mainstream refugees into development and climate adaptation plans and identify models for inclusive governance and planning.

- Promote multi-stakeholder engagement in designing and implementing climate resilience and adaptation initiatives, ensuring meaningful participation of refugees, host communities, civil society and government actors.

- The implementing bodies of the Sharika Plan (IOM, UNHCR and other UN bodies) should ensure that public participation is conducted at each level and adopt the views of both refugees and the host communities to mitigate resource-based conflict in the future.

- More NGOs should be involved in the issue of waste management due to its impact on the environment, especially in Kibera.

- Promote the distribution of drought-tolerant seed varieties alongside the establishment of water harvesting structures to strengthen household food security and enhance economic resilience in Turkana and Garissa.

- Develop robust M&E systems to track the effectiveness and sustainability of their climate action initiatives. This will aid in generating evidence on effective solutions, ensuring that resources are achieving intended outcomes, and guide the up scaling of successful adaptation models. Strengthened M&E will further ensure that interventions remain responsive to evolving environmental and socio-economic conditions.

Researchers

- Investigate the relationship between climate change and gender-based violence (GBV), particularly the increase in domestic violence and family breakdowns, as the area is experiencing climate hazards.

- Examine the impact of climate-related shocks such as drought and floods on school enrolment and dropout rates, especially among girls and children in refugee-hosting areas.

- Research drought-resistant crops and their adaptability in arid and semi-arid regions; for example, study the performance and potential of a tomato breed from Somalia, as it is doing well in the Dadaab area.

- Assess and explore the value chain potential of the invasive shrub Prosopis juliflora ('*Mathenge*'), focusing on its economic uses such as charcoal, biomass and animal feed, while developing strategies to mitigate its harmful impacts on livestock and ecosystems.

- Examine how climate degradation influences social cohesion and refugee–host community relations, particularly as competition for scarce natural resources such as land and water intensifies, potentially undermining efforts toward peaceful coexistence and integration. Future research should explore the link between environmental change, emerging tensions, and refugee integration processes to inform conflict-sensitive adaptation strategies.

5. CONCLUSION

The evidence presented in this report underscores the increasing severity and frequency of climate-related hazards namely extreme heat, droughts, and floods across refugee and host communities in Uganda and Kenya. These hazards are not only growing more intense, but are also becoming more frequent and unpredictable, compounding the socio-economic vulnerabilities already experienced in displacement and informal urban settings.

Both livelihoods and unpaid household labour have been affected. Livelihood activities ranging from small-scale farming and livestock rearing to informal trade and casual labour are being disrupted by heat, prolonged droughts, water scarcity and flooding that damages productive assets, limit mobility, and reduce income-generating opportunities. At the household level, domestic responsibilities such as cooking, cleaning, water collection, and childcare primarily conducted by women and girls have become increasingly laborious, time-consuming, and even hazardous.

Amidst these challenges, the resilience and ingenuity of affected communities stand out. Households and communities have devised practical and locally driven adaptation strategies from shifting cooking times and digging household drainage to creating shaded workspaces, rotating caregiving duties, and organising communal clean-up efforts. There has also been a notable trend toward promoting gender flexibility in household labour and fostering community-based responses such as water sharing, informal childcare arrangements and mutual aid systems. These adaptations are both resourceful and adaptive but remain constrained by structural limitations such as a lack of adequate infrastructure, weak social protection systems and insufficient external support. As a result, it is critical that we continue to find sustainable, community-led, climate-friendly solutions to address and combat climate change.

The findings also resonate with broader regional evidence, including the Supporting Pastoralism and Agriculture in Recurrent and Protracted Crises (SPARC) emphasis on locally led adaptation and integrated resilience systems. Continued collaboration between humanitarian and development actors will be key to sustaining such approaches beyond donor cycles.[46]

[46] SPARC: Supporting Pastoralism and Agriculture in Recurrent and Protracted Crises | ODI: Think change

ANNEX 1: UGANDA PROBLEM TREES

Figure 11: Climate hazards on Livelihoods in Uganda

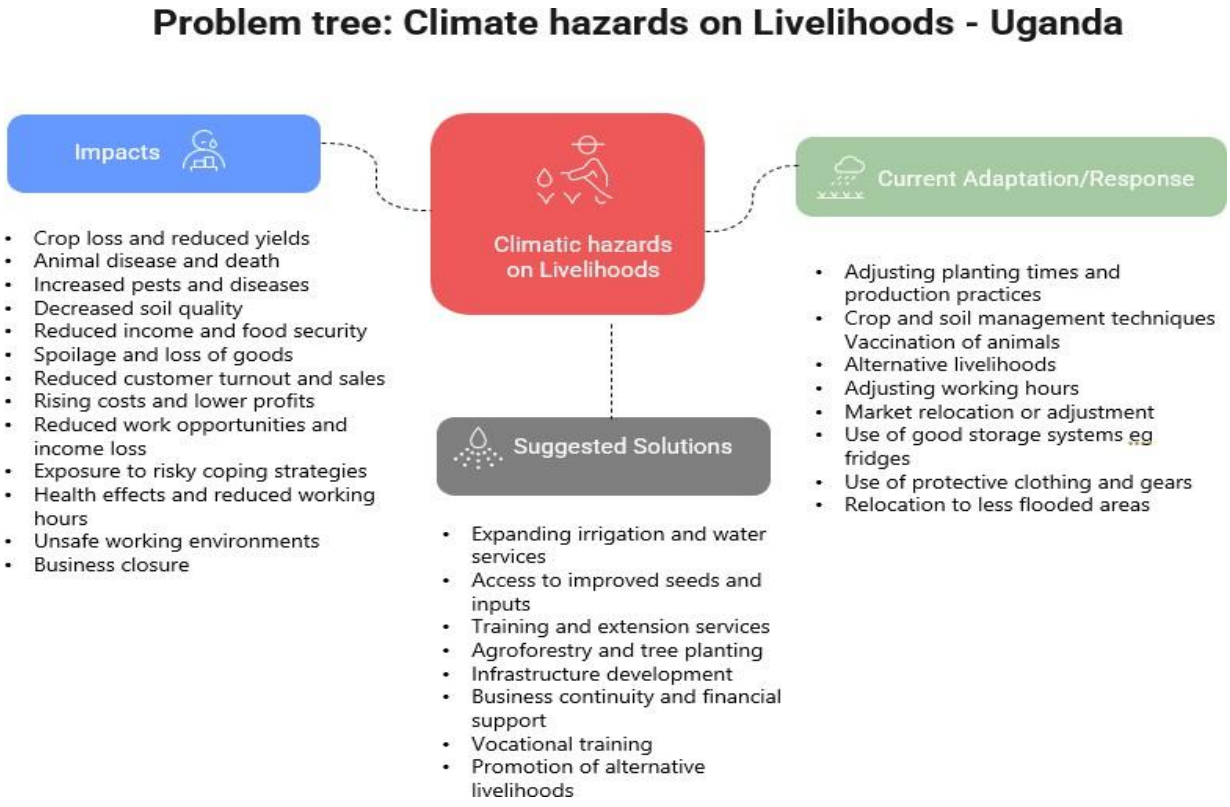
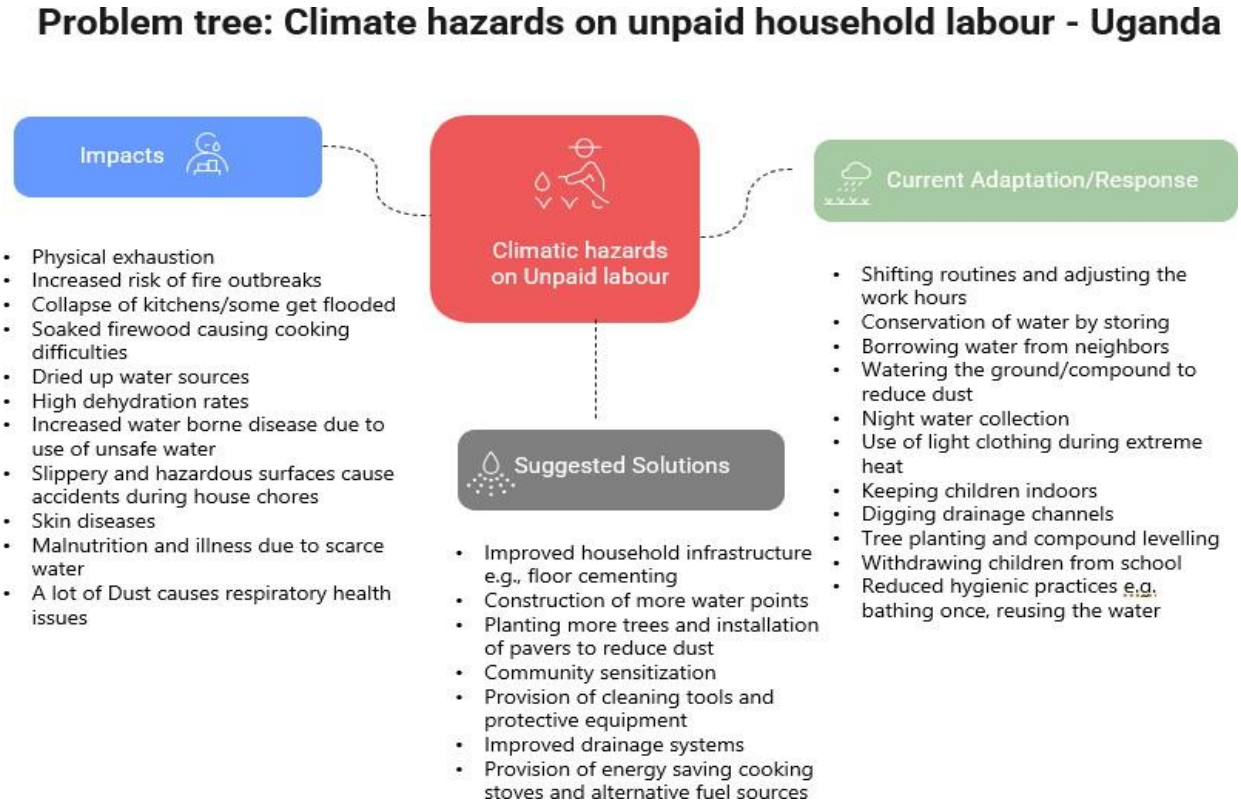


Figure 12: Climate hazards on unpaid household labour in Uganda



ANNEX 2: KENYA PROBLEM TREES

Figure 13: Climate hazards on livelihood in Kenya

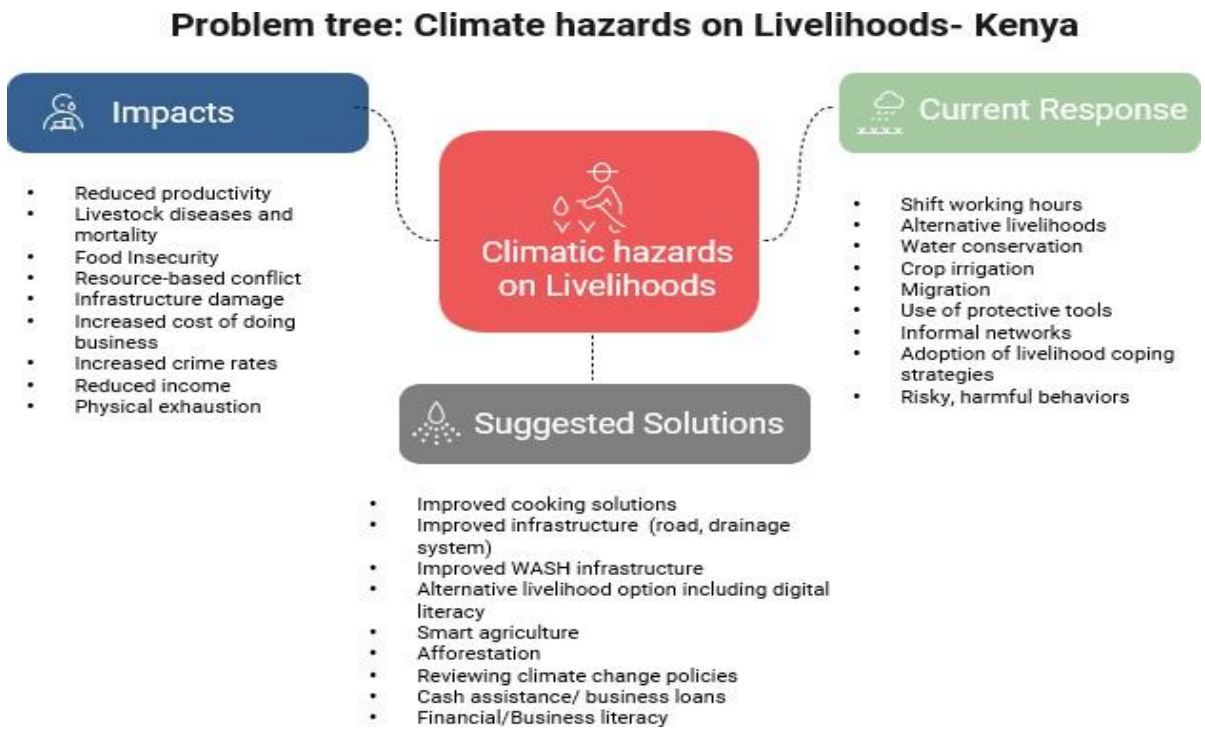


Figure 14: Climate hazards on unpaid household labour in Kenya